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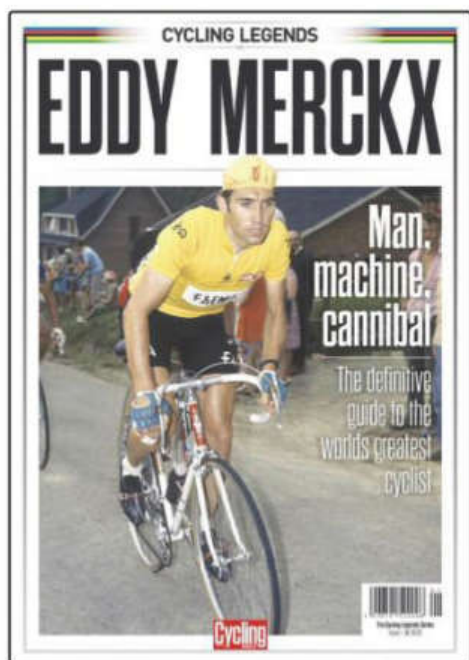


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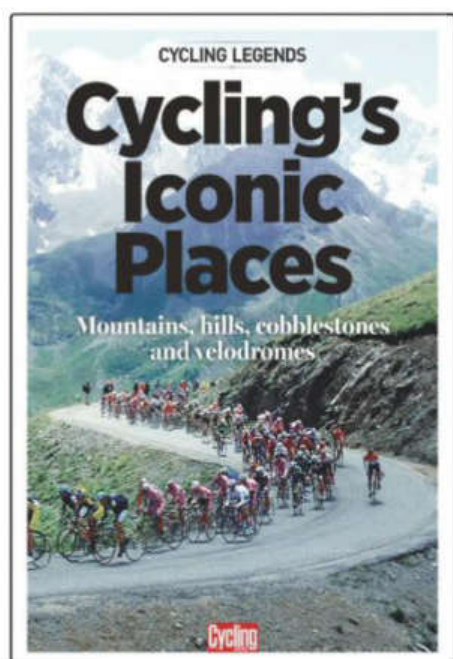
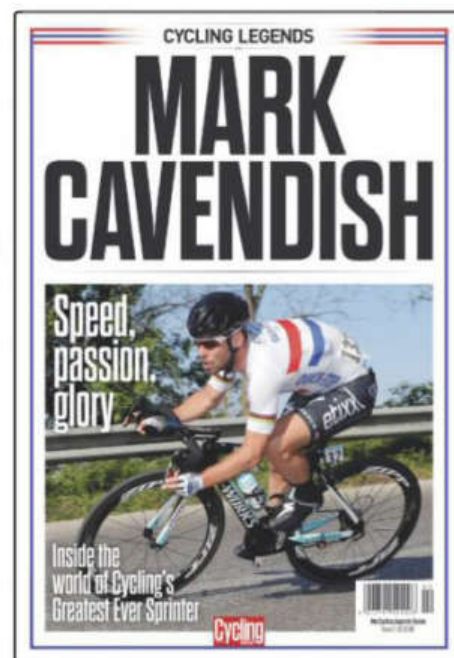
From the makers of Cycling Weekly, this glossy 148 page guide is dedicated to Eddy Merckx, the finest ever male racing cyclist. This guide looks at the great Belgian's career and seeks to explain the phenomenon he was; featuring profiles and interviews of Merckx, his team mates and rivals.

SPEED. PASSION. GLORY.

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The second in Cycling Weekly's glossy **Cycling Legends** series, dedicated to Britain's biggest winner, Mark Cavendish. Follow his career from schoolboy prodigy to king of the sprints, with interviews from Cavendish, his rivals, team-mates, managers and coaches.

Discover the science, tactics and demands behind this truly gladiatorial part of cycling, and see why the phenomenal speed of Mark Cavendish makes him the greatest sprinter professional road racing has ever seen.



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DISCOVER **CYCLING'S ICONIC PLACES**

Cycling is a sport played out against varied and often stunning backgrounds, but some places are special.

They stand out within the sport; not because they look incredible, although many do, but because of the races that have passed over them. And because of the part they have played in those races.

The third in our **Cycling Legends** series is a tribute to these places. Using words and the reflections of great riders, as well as incredible photographs, it tells the story of the mountains, hills, cobbled roads and velodromes that help make the sport of cycling the great spectacle that it is.

They are cycling's stadia. They have shaped its history and helped provide so many memorable moments. They are Cycling's Iconic Places.



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WISH YOU WERE HERE

Ride London

With 25,000 people taking up the challenge, the RideLondon-Surrey 100 sportive saw huge waves of riders completing the century, in times ranging from just under four hours for the fastest finishers up to a full day for those simply looking to enjoy a big day out on the bike. All the participants took advantage of the rare opportunity to ride on the closed roads of London and Surrey.

Cycling Active columnist Brett Lewis completed the ride in 5hr 5min. He said: "It's the best day I've ever had on my bike; riding at 20mph for five hours on the closed roads of London is a cyclist's dream. I'm pleased I added the extra 60 miles a week to my training plan — it made a big difference on the day. If you love serious riding, you've really got to do this event. The organisation was just immaculate, the crowds along the route were incredible and the

100-mile route from the Olympic Park all the way to Surrey and back to the Mall was fantastic. And you get a great big medal at the end!"

Now in its third year, this packed weekend of cycling saw events ranging from child-friendly rides right up to the elite racing fielded by the international pro peloton, all hosted in the heart of London.

However, for the majority of serious road cycling enthusiasts, this is a unique opportunity to ride through London and know you'll be cheered all the way — the nearest you could get to the feeling of taking part in a professional race.

Next year's RideLondon festival of cycling will take place on Saturday and Sunday July 30-31 2016. With the event rapidly increasing in popularity, the ballot for the 2016 RideLondon-Surrey 100 has already opened, so you'll need to be quick if you want to try it for yourself.

Photos: Roo Fowler





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Strava launches new 'Live' update

Popular app now features real-time feedback

By now most cyclists are aware of (if not obsessed with) Strava, the global online community for athletes, and the updates keep on coming. August saw the launch of Strava Live, a mobile innovation that will effectively turn your phone into a cycling computer.

In July this year Strava teamed up with Garmin to bring riders an improved real-time experience on the Garmin Edge 520, the first GPS bike computer to feature Strava Live Segments. That means you can now know, in the moment, what it would take to beat a personal best or challenge other riders on Strava rather than rushing through the

door after a ride to see you didn't quite take that KoM or QoM.

Strava says the new phone app is bringing cyclists another step closer to having one device that does everything.

"More and more Strava athletes are using their phones while riding and running"

"More and more Strava athletes are using their phones while riding and running," says Strava's chief product officer, Aaron Forth. "In 2014, 87 per cent of Strava athletes

used their mobile phones to track a ride or run. We're focused on making mobile a source of motivation for athletes before, during and after their workouts, and Strava Live is a key component of those efforts."

KICK-START YOUR SEASON

La Fuga 2016 tour dates announced

Cycling touring company La Fuga has launched a number of new pre-season riding escapes for 2016.

New destinations include Norway, Cyprus, Majorca and Provence, all of which provide plenty of climbing. The Provençal escape will take on an ascent of the infamous Mont Ventoux.

Prices start at £999 and for that you'll receive the full pro experience of supported rides, with coaching advice on hand throughout. Coming early in the year, from February onwards you can get some mountainous miles in ahead of the spring and summer season.

www.lafuga.cc

Editor's letter

Welcome to your new *Cycling Active*

I'll come straight to the point: *Cycling Active* has changed, not just a little bit, but actually rather a lot. Let me explain...

When *Cycling Active* first hit the shelves, it was focused on encouraging people to get a decent bike and experience the physical and spiritual rewards of road cycling. Many of you wanted to lose weight and get fitter. Others were born-again cyclists who realised that what they had left behind in their youth had to be recaptured.

It wasn't long before you'd shed some pounds, bought a second bike, eschewed the shorts and T-shirt for proper cycling kit and were training for your first sportive. Now, many of you are on your third bike, you're doing more 'testing' sportives, working on training plans, have got dangerously into 'bike fashion' and some of you have even got yourselves addicted to Strava. Others have joined cycling clubs, found new ride buddies and what for many started out as a means to an end or a healthy hobby has become an obsession.

Meeting your needs

Well, we took a look at what we were doing, had another look at what you were doing and realised we were no longer producing the *Cycling Active* you needed... and so we've changed it.

So, welcome to the new *Cycling Active*. We now have great ride stories based on the routes of some of the most challenging rides in the UK and abroad. In this issue, aside from the ubiquitous Box Hill, we have Michael Hutchinson (AKA *Cycling Weekly's* Dr Hutch) pitting his skills in the Lake District, following the path of the Fallen Leaves sportive.

Insightful content

We have group tests of £2.5k aero bikes and £1.5k endurance models. All the big bike brands are included, so you'll know it's a test of the best. We are also looking at long-sleeve jerseys, aero helmets and budget-priced on-bike computers.

We now boast the best nutrition/health/training section of any monthly magazine. Produced by *Cycling Weekly's* Hannah Reynolds, it gives you a unique insight into the best ways to train, and the right fuel to consume. We've also managed to coerce *100 Greatest Cycling Climbs* author Simon Warren into writing a new monthly column, in which he offers his own brand of cycling wisdom.

So there you are, just like you, *Cycling Active* has really moved on. I hope you like it.

Garry Coward-Williams, acting editor



Velothon Wales a roaring success

Two-day cycling festival proves a big hit

The inaugural Velothon Wales saw a two-day cycling festival take place in and around Cardiff with headline rides for both pro and amateur riders.

Following in the footsteps of the highly popular Prudential RideLondon 100 the Velothon is held over a weekend, and offers a

mass-participation event ahead of a pro road race.

The professional peloton hit the circuit for the UCI-ranked 1.1 race, which played out over 174km starting and finishing in the Welsh capital.

The Velothon ride offered all 13,000 entrants the chance to record a time

over a distance of 140km, all on entirely closed roads.

It was reported early during the event that a saboteur had thrown some tacks on part of the course. "A small number of tacks were discovered on isolated sections of the route in Caerphilly," confirmed event director Andy Taylor.

Despite this, it was a highly successful first year for the event. Wiesia Kuczaj from London took part and said: "It was a superb day in the saddle, with so many locals coming out to cheer on the riders. I'll be there again next year."

BIG BIKE EXHIBITION

The Cycle Show returns to the NEC

The Cycle Show is the UK's largest and longest-running cycling exhibition, having welcomed over 300,000 visitors since its launch in 2002. It returns to the Birmingham NEC between September 25 and 27 this year.

With over 280 exhibitors, it will be a real treat for all riders with every discipline and aspect of the cycling world covered, but especially for the road obsessed. There are also indoor and outdoor demo tracks to try some of the latest product releases. You'll be able to see a range of familiar faces on the main stage, and the *Cycling Active* team will be around armed with fitness tips and challenges.

Cycling Active readers can also take advantage of a special offer by going to www.cycleshow.co.uk/ tickets, and using discount code CYA, to get a discounted adult ticket for just £12 each.

CAPITAL GAINS

L'Etape London

The first ever L'Etape London by Le Tour de France hits the capital in 2015, which we predict is soon to be on many riders' bucket lists. This brand new event comes to London on Sunday September 27 in support of Access Sport and is organised by Human Race, the firm behind the Wiggle Dragon Ride and Tour de Yorkshire Ride.

Following the success at sister event Maserati Tour de Yorkshire Ride, riders now have the opportunity to take on much of the stage three route of the 2014 Tour de France.

For those after an epic challenge, the longest route is 117 miles but there's also a 92-mile medium option as well as a short 42-mile loop.

Riders will roll through Epping Forest before finishing up with a lap of honour at the Lee Valley VeloPark at the Queen Elizabeth Olympic Park, home of the London 2012 Olympic Games. Motorcycle marshals and Tour de France lead cars will give L'Etape London a real pro feel.

www.humanrace.co.uk



2016 MODEL UPDATE

Cannondale launches the CAAD12

The eagerly anticipated CAAD12 was unveiled this summer by Cannondale as it launched its new aluminum road bike for 2016. Available with rim or disc brake options, it's the latest in the Cannondale Advanced Aluminum Design (CAAD) line, updating the CAAD10. Reportedly weighing in 200 grams lighter than its predecessor, skipping the '11' because it takes two steps forward according to the brand. Cannondale describes it as "explosively stiff" and although a price is not yet confirmed, it's anticipated that the 105 build will retail around £1,250.

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Prudential RideLondon 100

“My time was the eighth quickest on the day so I am pretty pleased with that. I also caught myself on TV in the bunch sprint!”

Edward Porteus
Time: 3hr 58min (100 miles)

Rider's rating



Photo: www.Marathon-Photos.com



Etape du Tour

“Excellent and well-organised event and highly recommended. I rode strongly throughout and was pleased with my overall position in the top three per cent.”

Simon Morris
Time: 6hr 21min
Distance: 138km

Rider's rating



Prudential RideLondon 100

“Although I have ridden the Etape and Stelvio this year, my challenge was to ride 100 miles without stopping to get the best possible time.”

Jacky Burnett
Time: 5hr 12min
Distance: 100 miles

Rider's rating



Wiggle Haywards Heath Howler

“This is my second ever sportive after RideLondon and this was twice as hard. I could have done with one extra gear on that last section, it just kept on climbing!”

James Allwood
Time: 6hr 25min
Distance: 100 miles

Rider's rating



Wiggle Dragon Ride

“A good but tough ride. Fantastic scenery, cracking climbs, well organised and the salted potatoes at the stops were great.”

Rich Ford
Time: 10hr 27min
Distance: 143 miles

Rider's rating



La Marmotte

“An incredibly hot and tough route. I'm being trained by Dean Downing at Trainsharp Coaching, which helped with pacing. A stunning ride for Team Cystic Fibrosis.”

Alex Jones
Time: 8hr 57min
Distance: 109 miles

Rider's rating



Cycling Weekly Malvern Mad Hatter

“It was really well organised and had a cracking hill right at the end, nice! I'd do it again for sure. If it wasn't chucking it down I would have done the full route.”

Simon Adcock
Time: 2hr 19min
Distance: 43 miles

Rider's rating



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Sir Chris Hoy

Olympic legend

Six-time Olympic and 11-time world champion Sir Chris Hoy MBE on staying at the top

1 Definitely refuelling and rehydrating myself immediately after exercise is one of the key things I've learnt. Before, when I was doing so many sessions a week on the track and in the gym, and now on the road, I needed my body to bounce back and be ready to go again. You recover quicker if you get the proper nutrients into your body as soon as you can.

2 Make a plan and write it down. I find you're more likely to achieve your goals if you tick off smaller feats along the way. Winning an Olympic medal to me seemed like an insurmountable challenge but I just kept aiming for the next target and the next and the next.

3 While it's great to have a goal and to focus your efforts on achieving that goal never forget to enjoy the journey along the way. Without sounding too cheesy it's important to have fun and not be blind as to how you got there, this way if you don't succeed the first time you'll still have lots to draw on.

4 Understanding that you can always do more than you think you can. You'll surprise yourself of what you're capable of if you push through. Every session on the turbo or on a tough climb and it's the same every time, the old lactic acid battle and learning to override the mind and win the argument.

5 One of the biggest things I've learnt is to watch and study the guys that are the best. I used to analyse and emulate what they were doing differently to the rest of the field, looking at what gave them that edge and then look at ways I could improve on it further.

Sir Chris Hoy is the co-founder of HOY Vulpine: vulpine.cc



WE LIKE

Hardware



Selle Italia Tekno Flow £299.99

"The dream saddle of any athlete," says Selle Italia. And it looks impressive, with carbon rails, minimal padding and a large cut-out. Very light, but also comfortable.

www.chickencycles.co.uk



Camelbak Podium Bottle £8.99

This 610ml bidon is easy to take in and out of a cage, even riding at speed. The Jet Valve means no fiddling with a nozzle and the lockout switch avoids leakage.

www.zyro.co.uk



Coffee & Cols espresso cups, Jerseys set of four, £38

Enjoy your espresso in a cup inspired by cycling's most famous jerseys. All made of porcelain, the cups take 80ml/3oz.

www.coffeeandcols.com



Vittoria Open Pavé CG tyres £41.99

Designed for rough roads, in 25 and 27mm for extra comfort. Super-compliant with a 320 threads per inch casing.

www.chickencycles.co.uk



Lezyne Steel Digital Drive £64.99

The digital pressure gauge means you can dial in tyre pressures to 1psi accuracy. It's sturdy, with a stable steel base, a quality wooden handle and a long hose.

www.upgradebikes.co.uk



Garmin Vector 2 power meter pedals £1,199.99

Now with plastic pods so it's even easier to swap between bikes. You'll get more data than you'll know what to do with.

www.madison.co.uk



FFWD F6R Full-Carbon Clincher DT240 Wheelset £1,570

As well as being light and stiff these full-carbon clincher wheels from Fast Forward are built with speed in mind. The combination of 60mm deep rims and bladed spokes should help you cut through the air, while in addition the wheels come with an exclusive FFWD wheel bag for easy storage.

www.paligap.cc



Topeak Prepstation toolbox £549.99

The ultimate toolbox for any home mechanic, the Prepstation has 52 high-quality tools, all in a case on wheels.

www.extrauk.co.uk



Radial Grippy bar tape £9.99

This tape is waterproof, has a textured surface and a gel layer for extra shock absorption. Only available in black, white or grey but great for when it's wet outside.

www.radialcycles.co.uk

Ass Saver mudguard £6.50

The new Ass Saver design is longer and wider than the original, and so keeps more water and road muck off its namesake, particularly in a downpour.

www.blbbigmama.co.uk

Ritchey WCS Monocurve Integrated Bar/Stem £415

This bit of kit may justify its price on looks alone, with a beautiful carbon construction. At 353g it's not heavy either.

www.paligap.cc

WE LIKE

Software



Santini Mania mitts £34.99

These mitts are seriously comfortable with decent palm padding and come in a choice in four colours. The only thing that prevents a perfect 10 is the price.

www.fisheroutdoor.co.uk



Velopac musette £25

Available in a number of stylish designs, Velopac's A4-sized musette is waterproof and features a sturdy zip and wide strap. A great way to brighten up your commute.

www.velopac.cc



Pactimo arm-warmers £20

Featuring Milano thermal fleece fabric, Pactimo's arm-warmers are not only warm and well-fitting, but also easy to get on and off — handy on those autumn rides.

www.pactimo.com



Louis Garneau Course Powershield jersey £75.99

A water-repellent but highly breathable jersey that's well suited to hard efforts in poor weather. A must for UK riders.

www.evanscycles.com



Castelli NanoFlex £50

Comfortable, light and while not fully waterproof, Castelli's Nanoflex coating does a great job of repelling water, with impressive beading and overall warmth.

www.saddleback.co.uk



Endura Equipe Race Gilet £49.99

This gilet is extremely light and packable. Available in white or black, features include a zipped rear pocket, mesh back and headphone port.

www.endura.co.uk



Pearl Izumi Elite LTD Jersey £69.99

Available in several different colours, there should be a Pearl Izumi Elite LTD jersey to suit pretty much every taste. The three pockets are a good size, with the outer pockets ergonomically tapered to allow for easier side access. Ideal for long sunny rides thanks to a fairly relaxed fit and a comfortable fabric with excellent wicking properties.

www.madison.co.uk



Giro Empire SLX road shoe £249.99

At a claimed 175g, the distinctive Empire is one of the lightest shoes on the market with a fine blend of comfort with stiffness.

www.zyro.co.uk



SAKO7 Socks Mondrian White £15

Sean Safinofsky's colourful sock range includes these bold seven-inchers that celebrate the famous La Vie Claire professional team from the 1980s.

www.sako7.com



Assos NS.skinFoilSummer_evo7 £59.99

Assos's lightest base layer comes as a result of massive amount of R&D and at quite a price. But if you want the best...

www.yellow-limited.com



Etxeondo Feather bibshorts £169

Etxeondo claims these are the lightest bibshorts on the market. They're thin yet comfortable and certainly live up to their name, coming in at just 125g for a size M.

www.etxeondo.com



Pinarello Dogma F8 £9,799

The latest in a line of proven race winners, the Dogma F8 is a machine built for the world's best

Although over a year old, the Pinarello Dogma F8, which many describe as the fastest bike in the world, is still a dream bike for most. It recently won the 2015 Tour de France with Chris Froome and Team Sky at the helm, adding to its reputation as one of the best bikes ever built. Pinarello, ever the modest manufacturer, calls the latest Dogma the “eighth wonder of the world” — in fact, it was the eighth Dogma produced. Its predecessor, the Dogma 65.1, was the company's bestseller and won two editions of the Tour, with Sir Bradley Wiggins in 2012 and Froome in 2013. The updated version, the F8, has winning pedigree.

Pinarello claims the F8 is 12 per cent stiffer, 120g lighter and “up to 40 per cent more aerodynamic” than its older brother. The chart-topping and bank-draining wonder was brought into being through a collaboration between Team Sky, Pinarello and car maker Jaguar, headed by renowned innovator Dimitris Katsanis. Katsanis, who was the man behind Team GB's revolutionary Olympic UKSI track bikes, even insisted Pinarello use a new factory. No stone was left unturned, ensuring complete control over the production environment.

This specific build is laced with Fulcrum's top-end Racing Zero, shod with racing-orientated Vittoria Corsa tyres, Shimano's flagship electronic groupset Dura-Ace Di2 and completed with Pinarello's own in-house carbon components, most, including integrated aero bar and stem.

If you feel a need to be on the bike Fausto Pinarello claims is the fastest money can buy, this is for you.

Contact: www.yellow-limited.com

Drivetrain

Front derailleur: Shimano

Dura-Ace Di2 9070

Rear derailleur: Shimano

Dura-Ace Di2 9070

Cassette: Shimano

Dura-Ace 11-speed,

CS 9000 11-28

Chain: Unbranded

Brakes: Shimano Dura-Ace

Chainset: Shimano

Dura-Ace, FC 9000,

11-speed 50/34



Frameset

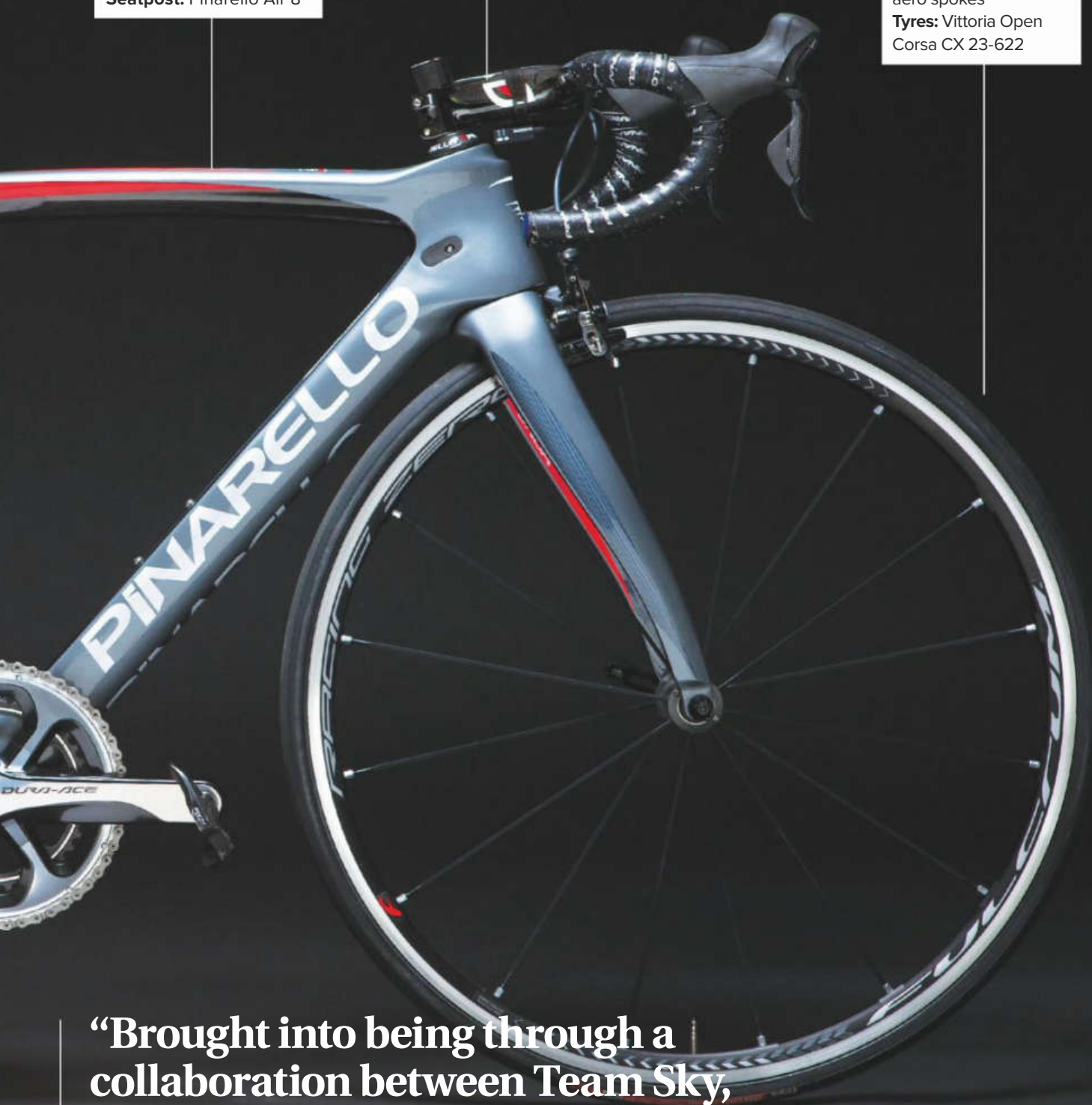
Frame: Torayca T1100 1K
Carbon Asymmetric
Fork: Onda F8 T1100 1K
Asymmetric
Seatpost: Pinarello Air 8

Finishing Kit

Handlebar and stem:
Most Talon carbon
Saddle: Selle Italia Most
Catopuma Carbon

Wheels

Wheelset: Fulcrum
Racing Zero Black, hub
ceramic USB
Spokes: Aluminium
aero spokes
Tyres: Vittoria Open
Corsa CX 23-622



“Brought into being through a collaboration between Team Sky, Pinarello and car maker Jaguar”

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Oakley Jawbreaker £180

When Mark Cavendish collaborates on eyewear you can expect some seriously well-honed optical wizardry and true to form, Oakley's latest sunnies are a visionary design



Oakley, in conjunction with Mark Cavendish, has developed this year's summer sunnie sensation, as sported by many riders at this year's Tour de France. The Jawbreaker even saw a number of British victories, coming from the Manxman himself, Chris Froome and Steve Cummings.

The collaboration of Cav and Oakley is said to have gone through 100 design iterations and 9,600 hours of lab and field-testing for the last two years, before each part of the Jawbreaker partnership was happy for it to be released earlier this year.

The Frame

The Jawbreaker design incorporates Switchlock technology. The idea is that the frame opens like a jaw, allowing for easy lens change without stress or

damage on parts. Frame arms are adjustable for different helmet-strap configurations, while the overall shape is said to aid better upward field of view — something that Cavendish may have asked for, especially for when he utilises his unique, lowdown sprint style we're all so familiar with.

Prizm Road

The pair illustrated have the new Prizm Road lens, designed to enhance vision. The idea is that the lens is suited to the environment — more so than the light condition — to help riders see subtle changes in the texture of road surfaces. Though, as with all Oakley products, they'll be available in a number of lens and frame colour options.

Contact: www.oakley.com

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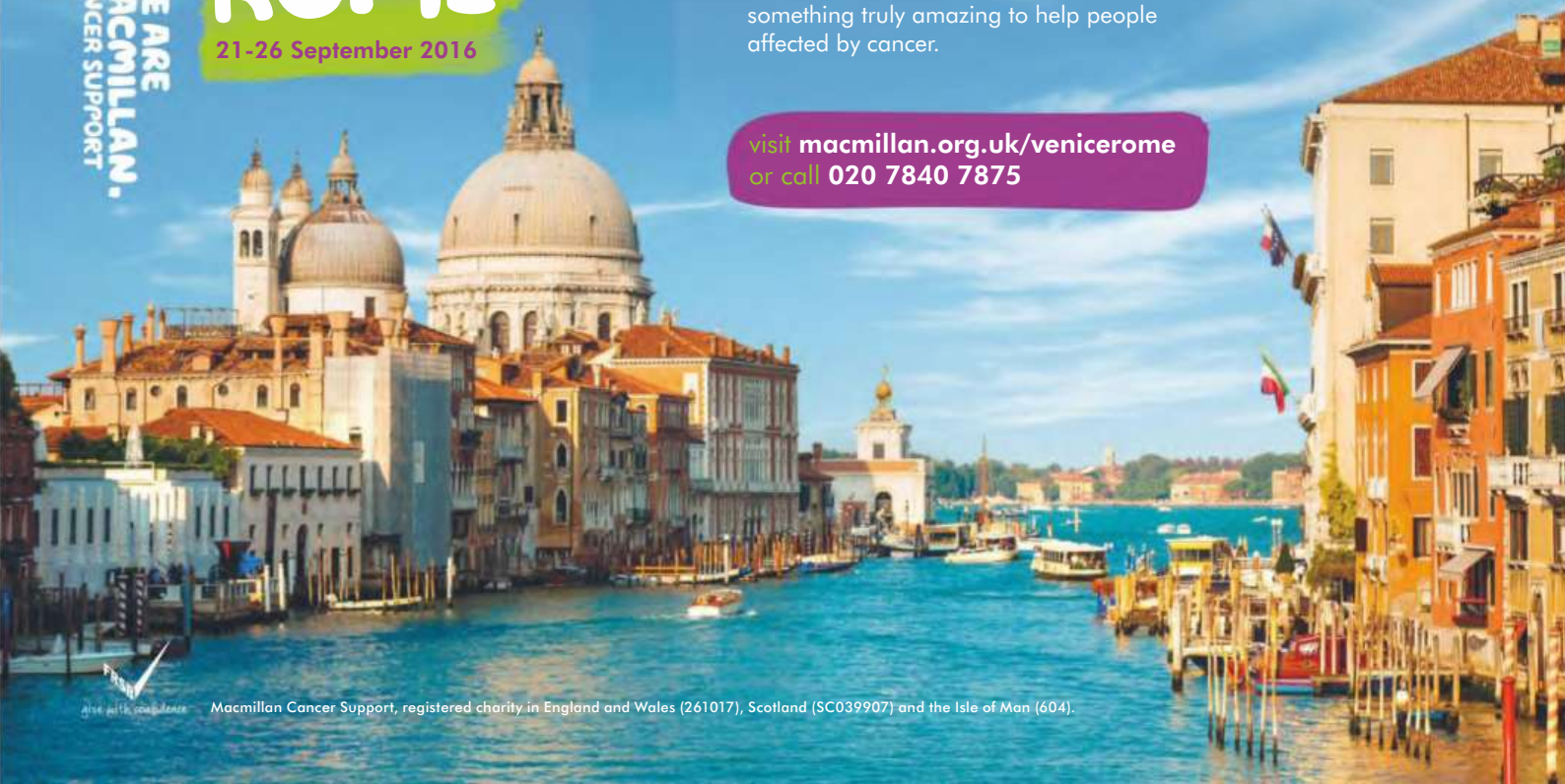
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"The rear wheel needed to be all but touching the seat tube"

Simon Warren is a former club racer, time triallist and the author of the popular *100 Greatest Cycling Climbs* series of books. He explains how fate took him on the path to righteous cycling

Life is a series of decisions, each one altering your path. Some you make, some are made for you. In the summer of 1988 I made a decision: it came to me out of nowhere and it set me on a journey. It led me to time trialling on the A1 and racing the likes of Bradley Wiggins at Herne Hill velodrome. It has also led me to ride and document nearly 400 climbs in Britain and Europe.

I spent the first 15 years of my life saving money. There were weeks when I could net close to £8 from my various babysitting jobs, and by following a strict regime I'd managed to squirrel away nearly £850. Then one summer's evening, while kicking about on a couple of 1970s plastic skateboards, I decided I was going to make a grand purchase of a Powell Peralta skateboard. That's when I ran into a problem: after trying some friends' boards I discovered I couldn't skate, not for the life of me. I had to face it that I was never going to be the next Tony Hawk.

With that dream over but money still in the bank, I needed a new target and that was when it came to me. I was going to buy a racing bike... a PROPER one. My uncle was a racing cyclist, and a few of my mates' brothers had proper racers in their garages. Bikes with impossibly thin tyres, no mudguards, immaculately clean, hidden under sheets, tucked down the side of cars, they were glamorous and exotic. I vowed that I would own one of these.

I drew up a mental list of criteria. Firstly, it had to have 700c wheels shod with 20mm tyres. It had to be made from Reynolds tubing, the rear wheel needed to be all but touching the seat tube, and it had to have clips and straps on the pedals. During my research I'd been tempted by new showbiz brands from the USA such as Specialized and Trek, but I knew deep down that the only bike I wanted was a Raleigh and it had to be from its Lightweights catalogue.

I already had a small pile of Raleigh catalogues, which I'd been studying for many years — all boys

did. Could I really now buy one of these fabulous machines? When it came down to it and after 'consultation' with my parents, who imposed a limit to the amount I was to spend, it turned out I could only afford one bike in the brochure, the bottom-of-the-range Ritmo. Now it wasn't the lightest, it didn't have the tightest clearances, but it was made of Reynolds tubing and so long as it was in that catalogue it was by association a genuine, bona fide racing bike.

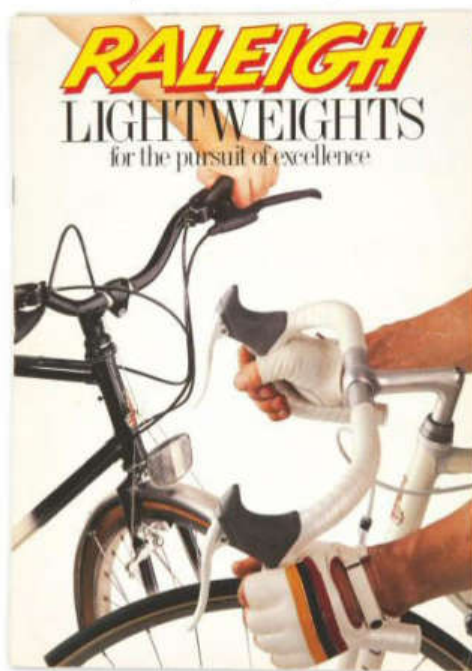
So after many weeks of staring at that same picture the fateful day came. I went, cash in pocket, with my dad to Staples Cycles. Phil Staples was the man who sold us our freedom. He gave us the means to escape, and to experience speed and danger. He was Willy Wonka and Father Christmas rolled into one.

Clutching my well-worn catalogue, I said I would like to purchase the Ritmo in the window, which I knew was my size as I'd been to look at it 51 times! Then something magical happened. For a few pounds more, way less than the marked price, he offered me the next bike up in the range, the Corsa. Now the Corsa was a

Ferrari in comparison to the Ritmo's Ford Escort. It was fitted with the latest tech from Japan: SLR brakes, Index gears, Biopace chainrings, hidden cables. This was beyond anything I thought I'd own. I needed extra money. Dad? Please, I'll pay you back... the deal was done.

There was no box, no setting up, it was straight home, out of the car and down the road. I'm not one to eulogise about the spiritual side of riding a bike, but setting off out of the village, sticking it in the 52x14, I wound it up to a speed I had simply never experienced before and the smile that spread across my face is still there today. That decision, made that summer's evening, changed everything.

You can follow Simon on Twitter @100Climbs



My catalogue from 1988... a book of dreams

NEXT MONTH Simon explains why his 'old school' cycling philosophy will not allow him to wear Rapha... even though he likes it



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"I'm just stuck in a desperate world of 'ifs', 'buts' and lost Kudos"

Brett Lewis started serious road cycling just over a year ago. He has need and hunger to be *the best* at whatever he does, but how does he deal with the harsh realities of Strava? Read on...

I'm a creature of habit. After a ride I do three things: take off my shoes and socks, make a strawberry recovery drink, and then walk around the kitchen searching for the best wi-fi signal to upload my Garmin data to Strava.

Then I can relax, clean my bike and have a shower knowing that a raft of PBs and Kudos awaits me when I next open my Strava App. That's the theory, but as we know the plan doesn't always work out, as either my kid's *Battle of the Clans* is eating into the wi-fi and I can't sync my Garmin to Strava, or worse, I don't have the PBs or Kudos and definitely no KOM's...

I curse not giving it a bit more on Ide Hill to Village Hall or maybe I should have tried a higher cadence and dropped it down a cog on the sprint past Tesco's. I'm lost in a desperate world of 'ifs' and 'buts' and lost Kudos.

I check my recent times against past efforts to find a place when I was really useless and can marvel at my progress. I've shaved nearly 12 seconds of the annoyingly named Kidds Hill climb segment in the last six months — excellent! I try to ignore that it's nearly an eight-minute climb by my standards and the KOM on that segment is 4 minutes 27 seconds. I console myself further with the rest of the data for that segment: I'm 3,069th out of 6,138 riders on the All-Time leader board and 1,080th out of 2,160 attempts this year. I try to find some positive affirmation in the data, but instead I am struck by the reality staring back at me from the screen; it's all looking pretty average.

Is 'being average' better than I thought?

In 2014, according to Strava, the average data for a male rider looks like this: distance per week was 41km, average time in the saddle per ride was 1h 46 minutes, the average speed was 23kph and average climbing per ride was 390m. All of which feels impossibly low, slow and not enough. I look at my own 2014 statistics: total distance 2,264km, so that's only

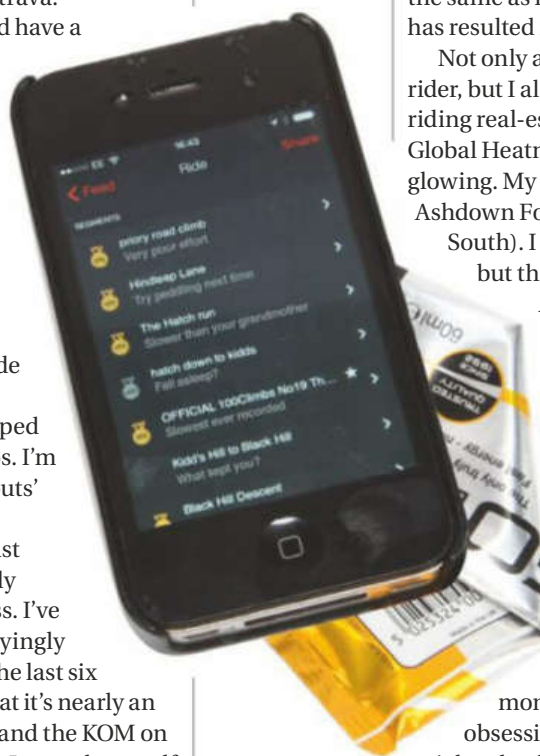
43.5km per week. Lower than I thought or remember, but it was my first season in the saddle. A sense of déjà vu overwhelms me. Those Strava average data numbers are more than familiar...they are practically the same as mine! I can't believe that all that effort has resulted in me being so damn average!

Not only am I the embodiment of an average Strava rider, but I also pedal over some of the most popular riding real-estate in the UK. A look at the 2014 Strava Global Heatmap shows my area of Kent as positively glowing. My favourite weekend routes are around Ashdown Forest and the Downs (both North and South). I think I'm lucky living in the countryside, but there's a lot of us out on the same lanes.

According to Strava the most popular day to ride in 2014 was the June 8. I scroll down my Strava Activities Profile to that date and find my entry. The data reads: Sunday June 8, 9.41am/50.8km/1.55.49 moving time /573m elevation. I then scroll like a madman for Sunday June 7, 2015. There it is, Dashboard, Ride, 9.44am/48.4km/1.57.20 moving time/650m elevation. I'm nothing but consistent.

I can't ignore the data, despite the months of turbo work, the training plans, the obsessing over body weight, bike weight, the right wheels, the right tyres, considering aero tops, aero overshoes, aero bars and those mysterious packages from Wiggle that you hide from the wife: I am still a totally average bike rider.

Before I became a cyclist, I would never have believed that being so average would entail so much sweat and pain. And then there is the occasional gut-wrenching disappointment when Strava uploads the data from what I thought was my latest PB-breaking, Kudos-recognised ride only to see my optimism shrivel and die in the face of the truth. And yet, every new ride brings new unrelenting fresh optimism that I'm going to shatter some PBs and get closer to a KOM. I enjoy the challenge so much, I've never been so inspired to keep pushing and pushing and striving to get better. Am I mad or am I average... or am I just like you?





The British have always loved a bike race. Look at the crowds here in Blackpool welcoming a British winner of what was a great British race. Cycling was on a high in 1965, and home riders were gaining traction in the great races of Europe. Another rider from these shores, Tom Simpson, would become world champion in 1965, and win the BBC Sports Personality of the Year. And there were lots of young riders with the ability to follow him.

One of them was Les West.

But today Les West is probably the best British cyclist you have never heard of. Fifty years ago, in 1965, West had a particularly outstanding year. Aside from the prestigious Milk Race, he set the British Hour record, the 25-mile time trial record, and won the Tour of the Cotswolds and the British National Championships.

The Milk Race, which was basically the Tour of Britain but sponsored by the Milk Marketing Board, he won twice. He took a silver medal in the 1966 Amateur World Championship road race, and four years later, in 1970, he was fourth in the professional World Championships. Only Simpson and, 46 years later, Mark Cavendish, have done better.

But West didn't follow Simpson. In 1970, he rode for a British-based professional team, riding British professional races, not the big Classics and Grand Tours that Simpson rode and which Cavendish, Geraint Thomas, Chris Froome and many other top British racers ride today. Why? Because Simpson's death in the 1967 Tour de France stunned cycling in Britain, set it back years, and it took a long time to rebuild the confidence that's here in this picture, taken way back, 50 years ago, in the summer of 1965.

Written and compiled by Chris Sidwells





“In the World Championships,
only Simpson and, 46 years later,
Mark Cavendish have done better”



EPIC ROUTE

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61 Miles

Lake District

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It's the little surprises that can make a day's ride so special. And the most magical moments are when the surprises come at you in multiples. In this instance, the first was when the sun came out. It transformed the Lake District into something that looked the way Northern Italy would look if it didn't have a four-lane highway along

every lakeshore.

The second surprise was thundering down a dead-straight descent of about one-in-six, when suddenly the land and the forest on the right-hand side of the road dropped away to reveal a stunning view across Windermere, several hundred feet below me. There was sunlight sparkling off the lake. There was a steamer. There were sailing boats. There was everything except the actual Swallows and Amazons, and it was just beautiful.

The third surprise was that, after just a few seconds gazing contentedly at the lake, I glanced back at my computer and realised that through the magic of gravity I was doing rather more than 50 mph. The fourth

surprise arrived in very short order afterwards. It was a T-junction, and it was a great deal closer and approaching a great deal faster than I'd have liked.

Rob, my riding companion, was just sweeping into an elegant, safe left-turn, because he'd been looking where he was going rather than gazing stupidly sideways at some water. The irony was that I'd been hanging back, because Rob's recent riding had clearly involved so many crashes that he was about 50 per cent bruise, 50 per cent half-healed scab.

"Been on the floor lately?" I'd said.

"Last week at the circuit race in Otley," he'd replied.

"And...?"

"Yeah, the week before as well. People keep crashing right in front of me at the minute."

On the basis that "right in front of Rob" was clearly a very dangerous place to ride a bike, I'd made a habit of letting him go first.

This time I was luckier than I deserved. A miraculous gap in the trees gave me a sudden view up the road that I was joining, and it was

clear. Buttocks clenched so hard that I'm amazed I didn't fold my saddle in half, I swooped round the turn, and flew past Rob.

The Lake District is a great place for a ride. Even when we were there, in the middle of the summer tourist season, when we were off the main roads we probably saw no more than a couple of dozen cars in over 60 miles. The route we took was from the Ride of the Fallen Leaves sportive, which runs in October, by which point I imagine there'd be almost no traffic at all.

Squeaky clean

We started out from Coniston village, heading south on a rolling A-road. It wasn't actually raining, but it felt as if it very much wanted to. In truth, at that point, the whole enterprise didn't seem too promising. There was also a terrible, terrible squeaking noise. "Is that you?" I said to Rob.

"It might be," he said. "Have you ever cleaned your chain with paraffin?"

"No," I said.

"I tried it yesterday. It does an amazing job. But the chain was so clean that I didn't really want to get it dirty again by putting oil on it. The downside is, it seems to squeak a little." That was the soundtrack to our ride,

then. The noise of the mice from Bagpuss being put through a pasta machine.

I hadn't actually met Rob before that morning — when I'd planned the ride I'd asked a friend if they fancied coming with me. She'd yes, before realising a few days later that she couldn't make it. She suggested her colleague Rob, a top junior road racer. I'd liked the idea; I thought I could show him a few old tricks, maybe pass on some old racing wisdom.

The untamed Lakes

And if I'd had any breath to speak, maybe I'd have done so. As it was, the casual ease with which Rob, even on a steep climb, could accelerate in two or three pedal strokes to slot-in in front of me to let a car pass meant that I was profoundly grateful for whatever his unlubricated chain might be doing to slow him down.

When we turned east off the main road, the real ride began. Before we really knew what we were doing, we were into a steep and horribly slippery descent,

THE RIDERS

Michael Hutchinson

Former pro time triallist, national champion and record holder over distances from 10-100 miles. Has ridden at the World Championships and Commonwealth Games. Once hit 73mph riding a tandem down a Welsh hill with former GB pro, Sean Yates.



Robert Scott

UK top-ranked junior, riding for VCUK-PH

MAS. Best under-16 in the National Road Series in 2014. He lives in Hebden Bridge and is currently an apprentice engineer at energy products company, Science in Sport, who provided him with some subtly branded kit for the ride. Aims to become a pro.





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Challenging gradients abound on a day of ups and downs

under overhanging trees on a wet, potholed road. There was no chance of getting any speed up — letting go of the brakes would have been an instant ticket to disaster. As it was, I was sure I was heading for the undergrowth in horrible slow motion. Then, just as suddenly, we crossed over a stream and the route opened out onto a long, steep-but-steady climb across bracken-covered fells.

There was a distinct lack of cutesy stone walls and the lush vegetation that I tend (wrongly, I know) to think of when anyone mentions the Lakes. This was wild and exposed. We could see the road snaking up and over the hill far in front, and the hundreds of sheep were definitely built more like climbers than rouleurs. We stopped for a moment at the top, and were treated to our first evidence of the sun for the day — it was shining like a spotlight on Barrow-in-Furness, far away beside the Irish Sea. Where we were, it continued trying to rain.

It felt like a different world from the tearooms and giftshops of Coniston. Just where the hell had the hundreds of tourists in the village gone to?

“I dropped below three mph; my GPS came to the conclusion that I wasn’t moving”

What about all the cars and caravans on the road over from Kendal? It was like the moon. With sheep. And bracken.

Then it all changed again. A rocket-fast descent on a short stretch of

A-road, where I managed to drop Rob by virtue of nothing more than superior bodyweight, followed by a hilariously steep climb though some dense woods on a road that seemed to be doubling as a stream. It was something like one-in-five, and I must have looked at my back wheel half a dozen times in the hope that a giant sprocket or two would have appeared. When I dropped below three mph, my GPS came to the conclusion that I wasn’t moving at all and turned itself off, which felt pretty damning.

Descend and repeat

When we’d clambered to the top Rob said, “I wouldn’t fancy going back down that, it was pretty sketchy even going up.” I agreed. And at that moment James, our photographer for the day, appeared and said, “Do you fancy going back down that and coming up again? I’ve found a









Brooding skies can't overshadow the splendour of the Lake District

better shot. I only really need one of you." I told Rob this was exactly the kind of thing he'd been invited along for. When he came back up he had added nothing new to his vast collection of abrasions, so I suppose he must have made it.

The route divided very roughly into thirds, though we didn't really know it at the time. We'd done the first, the bleak, windswept bit. It was probably the best bit of the ride. Next came the flat

"Next came the flat bit, as we skirted the southern edge of the Lakeland fells"

bit, as we skirted round the southern edge of the Lakeland fells. Not only did the terrain change, the surroundings were rather different too. High hedges and country churches, winding lanes and small stone bridges.

Rob and I did a few miles of through-and-off riding to get the speed up a bit — we'd set ourselves a casual target of four hours, and we were barely holding on to that pace with more climbing to come. It was nice to settle in to a bit of a rhythm too — all the steep climbs and descents had given the day so far a disjointed feeling. For an old racer and a young racer, it felt right to spend at least a few miles going fast.

Just as the road started to go up again, we passed through the pretty village of Cartmel. As a student I once went there on what was billed as a "summer reading party." Doubtless some reading did get done, but not much of it was done by me. The "party" bit, on the other hand, I embraced. I remember waking up in a churchyard, with only a hazy idea of how I'd got there. There was a crow standing on a nearby gravestone, staring at me in palpable disappointment. Clearly, until the moment I turned out not to be dead, I had featured prominently in his breakfast plans.

Back to school

I started telling Rob this story, before

THE BIKE

I rode a Specialized Tarmac SL4, from 2014, with Shimano Ultegra Di2, and an FSA Gossamer chainset. Wheels were Fulcrum Racing S-5, tyres were 23mm Specialized Turbo Elites. The wheels flexed maybe a little too much, but otherwise it's a great bike for the route — compliant and comfortable while being light and stiff for the climbs. Gears were 52/36t and 11-25t.





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Undulating country roads are blissfully free of traffic

having a sudden doubt about whether this might constitute setting some sort of bad example. (I kept having to remind myself Rob was only 17 — his strength on a bike made it very easy to forget.) Happily, by way of a distraction, when we got to the junction at the centre of the village, my GPS had a fit, and we were reduced to borrowing someone's phone to see where we were supposed to go next.

"It's about time we started climbing again," said Rob. I asked why.

"It's been flat or downhill for ages, so it's about time we went up," he said.

I explained how in the last ice age, great glaciers had shaped the landscape of the whole area. How the land was sculpted into ridges, and how, therefore, the route was going to continue being flat for quite a few miles to come. "You can tell by the shape of the valley," I said. I felt that since there wasn't much left to teach Rob about cycling, I could at least help him out with some geomorphology. We rounded the next bend, and the road headed for the sky. Rob was too polite to mention it.

Anonymous ascent

Our route didn't cover any of the famous monster-passes in the area, Honister, Hardknott, Wrynose and the rest. We were too far south for any of that kind of t-shirt collecting. The biggest climb we had to face headed south-west from the village of Bowland Bridge. It was never wildly steep, but it was unrelenting. It was not a climb for sprinting up; it was one for sitting down and getting on with. I was surprised to look back later over my file of the ride, and find it was only about 10 minutes long, because it felt a great deal longer. The file also showed we were rarely over eight mph the whole way, which I found much easier to believe.

"Does this thing have a name?" asked Rob, as we ground along.

"No," I said.

"It should do," he said.

I knew what he meant. Crawling up a climb that doesn't even merit its own name felt like an injustice, almost an insult. It was like one of those climbs you get in the Dolomites, or the middle of France, where you began to hallucinate that you are riding backwards, but which you look for on the internet afterwards and discover that no one else has even noticed is there.

On the other hand, the sun had finally begun to dapple through the trees, the day was just the right temperature, Rob and I were enjoying each other's company, and we were clearly going to make it back to Coniston in time for a late lunch. In the context of which complaining about the climb's lack of a name seemed a little fussy.

The following descent to Windermere was where I had my near-death experience with the T-junction. It dropped down to the southern end of the lake, where it joined up with the course of a classic time trial race (the Porthole Grand Prix) that used to lap Windermere, albeit we were riding in the opposite direction. It's a race I once won, and I remembered making up time on a very fast descent down this road — to the extent that I was expecting the direction we





Racing the rain back to Coniston

were going in to be a real climb. But it noodled upwards casually, before dropping down to follow the lake shore for a mile or two — it was actually the only time we were riding beside water all day.

Climbing up from the lake, we passed a couple of other riders, the first we'd seen. Naturally we did our best to look pro — elbows in, nice cadence, 25 mph, casual "afternoon!" and so on. I was so busy posing that I took us straight past a left turn and off the route. About two miles further on, as we stood staring in befuddlement at the GPS and

gesturing in all directions at once, the two riders were kind enough to slow down and point us the right way. "There's a pissed-off looking guy with a camera back there looking for you," I think were their exact words.

We were almost done, though, and I was a bit sorry about that. I'd have loved another 20 miles. Or maybe 30. It was almost perfect riding, on roads that were almost eerily quiet, considering we were in one of the most beautiful parts of the country in July. But from where we got back on to the route, there were just five or six miles left to go.

When we found James, standing on a verge tapping his watch, we took a chance to stop and take a few shots on the final climb up Hawkshead Hill. Once we got to the top of that, it was an easy last 10 minutes down again and into Coniston.

That was a bonus, because as during the last few miles we'd been able to see a huge bank of black cloud working its way up from the south. Indeed, it had inspired some pretty nifty descending, because while the weather had been a bit mixed all day, proper rain was something we'd managed to avoid.

We and the apocalypse arrived at Coniston simultaneously, from opposite directions. We braved the rain manfully, for exactly as long as it took to make it to the cafe beside the car park. There we sat, eating chilli and looking at the rain beating on the window and bouncing off the pavement. And feeling very satisfied with our day. We even made it back inside four hours.

KNOW THIS

Climbing

The 61 miles has 6,300 ft or 1,900m of climbing, which is substantial but not monstrous. Maximum gradient was about 25-30 per cent, but never for very long. We managed on 36x25 (me) and 39x25 (Rob), but we're both fairly strong riders.

Other kit

The roads are fairly good, and 23mm race tyres were fine.

Time of year

A terrific spring or summer ride. By autumn, one or two wooded descents will feature a lot of slippery fallen leaves (hence the

ride's name). It might be a bit bleak and icy in places by mid-winter.

Where to stay

There is plenty of accommodation, generally independent hotels or B&Bs. Coniston is quite small, but the larger town of Windermere is 20 minutes' drive away. We stayed in Kendal, about 40 minutes away, and appreciably cheaper.

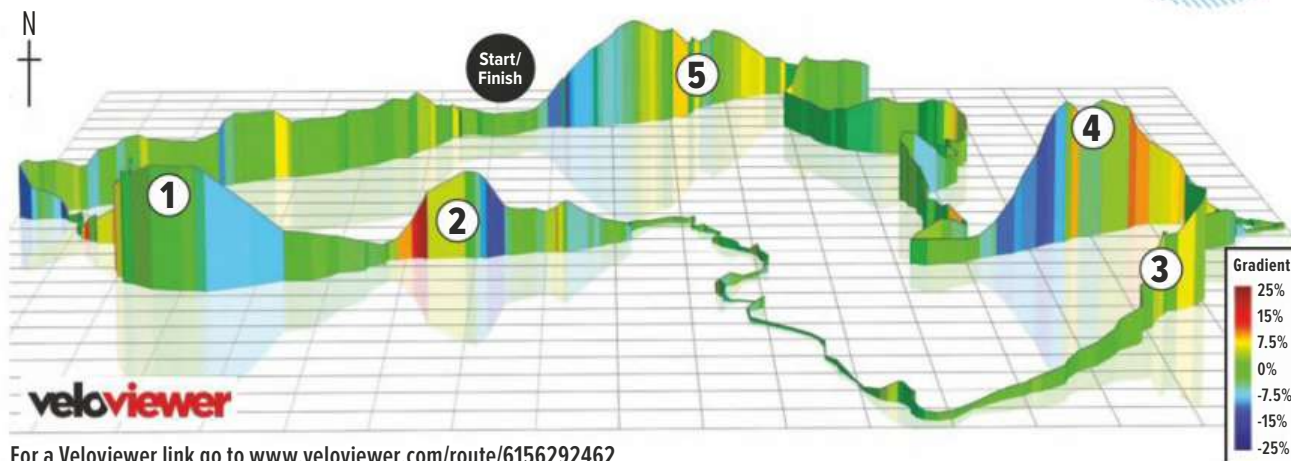
Getting there

The southern Lakes are easy to get to from the south, due to the A590 dual carriageway, which passes just a few miles from Coniston on its way to Barrow-in-Furness. It's more of a hassle from the north, though.

THE ROUTE & KEY CLIMBS

The Ride of the Fallen Leaves takes place on October 18, 2015 and is based at the John Ruskin School in Coniston. There's quite a bit of parking, not just at the school, but at a

couple of car parks in the village. (There's one by the lakeshore near the jetty.) The car park in the centre of the village, features a permanently installed track pump.



CLIMBS

1 Woodland climb

The first is up and over the moors south of Coniston, towards Kirby Moor. It gains about 120m, over 1.3km. The best Strava times are under four minutes. We ambled up it in something closer to six.

2 Bessy Bank

The next is the Bessy Bank climb, 100m gained in exactly a kilometre. It hits nearly 30 per cent gradient at one point. Best times around four minutes — we were 30sec down on that.

3 Cartmel

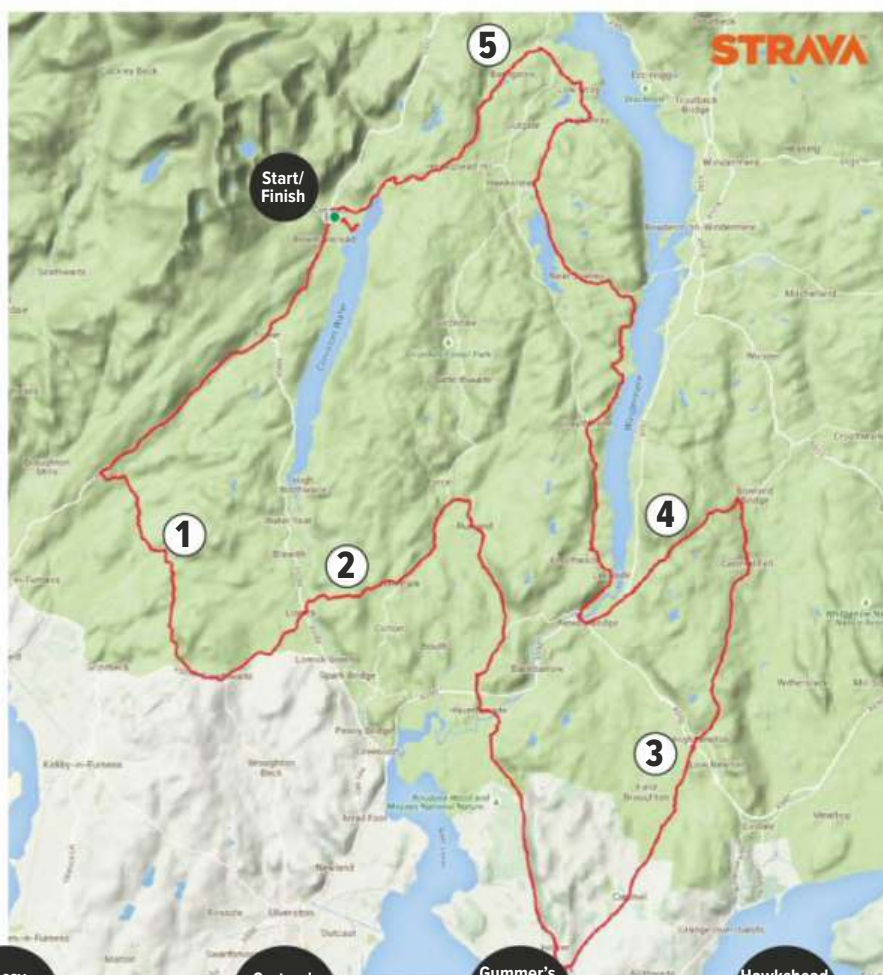
A 15km flat section, that's followed by a long and generally quite gentle climb from Cartmel to Newton Fell — 150m or so, but over 6km.

4 Gummer's How from Bowland Bridge

The day's biggest climb is from Bowland Bridge, 60km in to the ride. It gains 210m in 2.7 km. The best time is by national hill-climb silver medallist, James Gullen, at just under eight minutes. We rode up in 10.30.

5 Hawkshead Hill

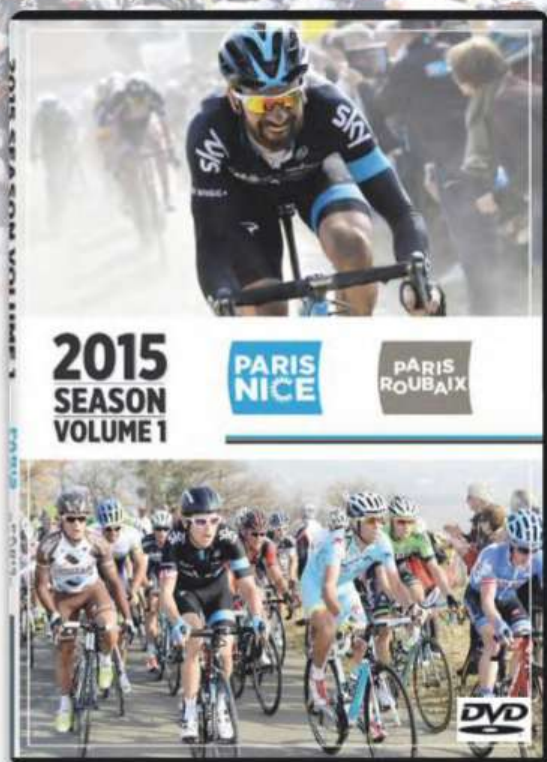
The last major climb is Hawkshead Hill, just before the finish. It's a modest sounding 180m in 6km, though it hits 17 per cent gradients at points. Best times are around 11 minutes. It took us a slightly embarrassing 18.



[Route map and profile is available at www.ridewithgps.com/routes/2385645]

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BOX HILL ORIGINAL SURREY

OCTOBER 11

**AN EPIC RIDE IN EVERY SENSE
FULL OF SHORT, SHARP CLIMBS
THAT ARE THE EQUIVALENT OF
TACKLING ALPE D'HUEZ TWICE**



I'm in the Surrey Hills with Will. He's an old friend; an old friend who was definitely faster than me. But I've not ridden with him for a few years and so when we meet in Dorking for a catch up ride over 100 miles in the summer sunshine, I'm feeling that serene sense of invincibility and misguided optimism that usually precedes an embarrassing episode of being totally shown up on two wheels. As I'm about to find out, the Surrey Hills is not a place where you can get away with it.

Surrey Hills. The clue is in the name. We're following the epic route of the Box Hill Original sportive, a 100-mile loop out of Dorking that criss-crosses a purple patch of picturesque and quintessentially British countryside, which, as we've established, is quite hilly.

Just how hilly immediately becomes apparent as we ride out of Dorking and through Westhumble, a steady climb past Pilgrim Cycles bike shop and cafe that soon has us rearing up into the trees and into a corkscrew-like hairpin up to Denbies wine estate. It's a classic Surrey Hills climb, starting off gentle with high earth banks and a tunnel of foliage where, if you can see the light at the end it usually means you're on a 25 per cent hairpin bend and in quite a bit of discomfort. In winter these roads can be pretty mucky with the mulch of all those leaves but in summer, besides the odd pothole or patch of gravel, the roads are clear as you roll through dappled pools of sunlight. From late September and into the early autumn the leaves start to turn and the hills are alive, turning golden brown with the final flame of summer. It's a sight to behold.

There's a short section of flat respite along past the common at Ranmore but soon enough Will and I find ourselves rolling up and down on little lanes, a pattern that is repeated all through the day. We both used to ride in Northumberland and County Durham and if you picked up some of the most famous climbs in Surrey and dumped them on the northern Pennines, you'd barely bat an eyelid at them. In fact we both distinctly remember riding up a bigger hill than anything around here just to get to the car park where our former cycling club used to meet. But the thing about riding in this part of the country is that these hills are relentless. They're not always especially long or steep, but they come on narrow roads and with such regularity that you really

have to appreciate the flats when you get them, because more often than not it won't be long until you shift down to the little ring and get out of the saddle again. Indeed, over the 100 miles of the route there is over 6,500 feet of climbing. That's like climbing Alpe d'Huez twice, but instead of a nice steady alpine gradient for a couple of hours it's a case of short, sharp sprints up steep ramps. As we soldier on it becomes clear that this ride is very much epic in both name and nature.

Into a rural idyll

Fortunately, as we head into the middle section of the route we head south from the cluster of hills, a little bit further away from the London Orbital, and take in some more gently rolling lanes. The route skirts past lush hedgerows, village greens and village pubs, plus there's the Dunsfold airfield, home to local bike racing and the test track for a notorious motoring show.

The flatter roads and good surface means you can sit up and enjoy the scenery — in theory.

Will and I reminisce about past club runs, when he used to race in the elite category in national level

competitions. It doesn't take very long to realise that he is still faster than me. He claims that he's had almost a year off the bike, but as I closely study the contents of his jersey pockets and inspect the mechanical workings of a Specialized Venge seatpost collar (which, I can now inform you, is one of the cycling world's more interesting seatpost collars, as seatpost collars go) I'm not so sure he's telling the truth. His bike's still got a race number holder attached to it just above the brakes.

Vivid memories start flooding back. I remember the war games your mind plays with your legs just to keep going. I remember the nightmare-inducing visions where all you see is a shiny silver Shimano Ultegra rear derailleur shifting endlessly down to a smaller cog and moving away from you.

While we are slogging it up and down the lanes, it's nice to know that on this part of the ride you don't have to just to get around. The middle section is the nice soft, cheese filling to a very thick, crusty sandwich; and you can choose whether you want a soft creamy mozzarella or a full whack Stinking Bishop. Will is clearly on an Epoisses de Bourgogne kind of day (a cheese so potent that it is banned from being taken on French public transport).

The fields roll on by and we drift out into the Weald, where the thick hedges buzz with insects and

THE RIDERS

Richard Abraham

A journalist for *Cycling Weekly* magazine whose cycling season involves building top form for late June before seeing it all disappear while covering the Tour de France. His racing career contains little of note and is now limited to club time trials.



Will Haynes

A former elite category racer for the domestic Herbalife-Leisure Lakes Bikes team, injury and a developing career as a scientist saw Will take a break from competitive cycling. He's now back on the bike and back on form, smashing his fellow riders at every opportunity.





**Hauling up one of Surrey's
myriad short, sharp climbs**



“People talk about finding their limits. You certainly do on White Down hill”

the roads shimmer in the summer heat. It's the kind of countryside that England does so well. In fact it's hard to find anything like this in cycling's heartlands on the Continent. Belgium is a patchwork quilt of fields stitched together by little lanes but in the densely populated Benelux you're never all that far from a settlement big enough to have a bar with Jupiler on tap. In the mountains of the Alps or the Pyrenees you're either riding along a pan-flat valley road, slaving away up a 10 per cent gradient or flying at full pelt down it.

Professionals always find racing in the UK tougher than in Europe. This is partly because they're forever racing on lanes that take them up and down and around and about, disrupting any rhythm, but also partly because British local authorities are often less inclined to lay a smooth, road bike-friendly carpet of blacktop asphalt than randomly scatter a truck load of aggregate surface dressing and head home for lunch.

The downside for pros is that they have to pump out more watts to keep their usual pace. The upside for us Brits is that it makes us tough cyclists. In fact the closest landscape to the UK is perhaps Brittany, and that part of France is the region that produced Bernard Hinault, one of the toughest cyclists of all time. Where some icons of the sport have been named after birds of prey — Federico Bahamontes was known as 'the Eagle of Toledo' and Fausto Coppi sometimes simply as 'the Heron' — this feisty Breton won five Tours de France with an aggression and grit that helped him earn the nickname 'the Badger.' He gets back on his bike to promote the Tour de France every now and again and, despite being 60, has lost none of that fire in his eyes. He could ride a sit-on lawnmower and still look mean.

The terrible trio

As we loop back and point our noses north, we need to channel our inner Hinault for the final third of the ride. It's the holy trinity of Surrey Hills: Leith, White Down and Box. Will and I exchange glances. We've got all three to tick off, in 20 miles, at the end of a long day in the saddle, having covered 80 miles already.

The first of those, Leith Hill, creeps up on you. The approach is gentle and never too steep as the roads gradually start getting more undulating once again, but once you're on it you certainly know about it. There's a right turn, the road narrows, and you can glimpse the tower at the top, which is a lot higher than you hoped it would be. This was the toughest climb on the route of the inaugural RideLondon-Surrey Classic in 2013 (although it was



Enjoying the flat, lush country lanes before the climbs kick in



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Spinning through pine woods bound for the highlight of the day, Box Hill

skipped in 2014) and while it doesn't usually give the professionals too much to think about, you can see how this would be a nasty place to be caught on a bad day. The RideLondon sportive was, however, a different matter altogether — a slow lane of traffic that had ditched two wheels for two feet in an attempt to make it to the top. Fortunately Will and I can at least hold a conversation today, even if it does become a confusingly disjointed series of words towards the summit. But that's a lot more than can be said for hill number two: White Down hill.

It sounds pleasant enough, conjuring thoughts of gradually ascending through rolling chalk grasslands with little animals scampering about in butterfly-filled wild flower meadows. It is pretty (if lacking scampering animals) but after nearly 80 miles let's politely say that it's very, very steep. After a fast descent of Leith Hill through the trees and a gradual drag back up for half a mile, it all kicks off at the first bend, shaped like a back-to-front question mark, by which point you're half the distance to the top but nowhere near halfway through the struggle. The final section never really drops below 15 per cent, and with a sharp 25 per cent bend to get going, your legs don't have any easy introduction.

White Down doesn't go as high as Leith Hill but it's a lot harder; one of those climbs where you're never quite sure whether to churn a slow cadence in the saddle or stand up and try to push through it. People talk about riding a bike in order to find their limits; well you certainly don't have to look very hard on White Down hill.

Entering the Goldilocks zone

We've saved ourselves a little treat for negotiating White Down hill: a trip up what is possibly the most famous cycling road in England. In fact on weekend mornings this has got to have one of the highest concentrations of cyclists in the country, save perhaps for the high streets in Oxford or Cambridge (however, these places have a lot more wicker baskets and a lot fewer Garmin-Sharp replica jerseys).

Box Hill is very much the Mumford and Sons of Surrey Hill climbs — lots of people like to say they were into it before it went mainstream, in this case thanks to the Olympic Games road races. Most of them aren't lying; Box Hill is a Goldilocks climb that is both very close to the capital



KNOW THIS

How to get there

Trains to Dorking from London Victoria, Reading and Gatwick. By car exit M25 at J9 (Leatherhead) and take A24 to Dorking.

Where to stay

Nearby B&B accommodation at Denbies Farmhouse (£105 double) and High Edser (£85 double). Head to www.visitsurrey.com for more information.

Bike

At least a mid-compact (52/36t)

chainset with a 27 or 28t sprocket will make your life much more pleasant on some of the steepest inclines. With the occasional bad tarmac, tree debris, loose stones and potholes, a pair of 25mm tyres with decent puncture protection is a good idea.

Kit

October could be dry and hot or wet and windy, so come prepared with leg and arm-warmers plus a stowaway waterproof jacket.



**Richard is cast adrift
as Will hits the front**

(it's probably the first decent hill for anyone riding out from south-west London) and exceptionally fun to ride. You can positively zoom up it. So even before the mania of Team GB and Sir Bradley Wiggins washed over its slopes, this little climb was a Mecca for cyclists, the gentle preamble to a long day out in the lanes or a goal in itself.

In tyre tracks of Olympians

It feels like the Alps, if you squint a little bit and it's not raining. There are two hairpins, which in this part of the world are called the zig-zags, plus some exposed grassy banks like the lower slopes of a big mountain col. There are great views from the top too; the railway line darting south around Dorking and the jets carving up the air out of Gatwick and away into the clouds. It strikes just the right balance between steepness and speed so you don't have to be whippet-thin to really enjoy it. The really tricky bit, however, is the false flat beyond the final bend and the cafe at the top. Imagine doing this nine times in a row at race pace like the blokes did at the Olympics. That certainly can't have been exceptionally fun to ride.

"The elastic that has been holding me to Will's wheel snaps in spectacular fashion"

With fresh legs Box Hill is child's play, but after 90 miles it gives you that satisfying (if excruciating) sensation of squeezing every last drop of energy out of your legs like wringing water from a wet tea towel. Predictably it's along this final drag that the elastic that has miraculously been holding me to Will's rear wheel snaps in spectacular fashion and I crawl through the village along the top with that tickly feeling in my throat that only comes after six hours of very heavy breathing. Mercifully all that's remaining is a fast descent along a narrow lane called Little Switzerland and we're soon back in Dorking.

Sometimes you can ride 100 miles almost by accident, but the Surrey Hills is not a place where that happens very often. Indeed us Brits have the perfect word for roads like these: grippy.



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WJ-1403-WOMEN

Ladies Pro Waterproof Jacket

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Wheel to wheel on Box Hill's famous 'zig-zag' bends

THE BIKE

I couldn't have asked for a better bike than the Canyon Ultimate CF SLX 9.0 LTD to tackle the Surrey Hills. The frameset comes in at a featherweight 790g and the slightly more relaxed geometry was ideal for a long day in the saddle. The pro compact 52-36 chainset gave that crucial extra gear for the steepest gradients. The exceptionally stiff and direct Mavic R-Sys wheels were perfect for power transfer on the short, sharp climbs. However, the 23mm tyres could have done with an extra 2mm of width to cushion the rougher road surfaces found under the leafy lanes.



Rolling back into Dorking, Will and I both agree that we can feel every last bit of what we've just ridden.

Pro riders talk about good pain and bad pain. When your joints feel and sound like they are lubricated by Hobnobs, or when you're shocked by a lightning bolt of a muscle strain or an inflamed tendon: that's bad pain.

That itchiness in the pits of your lungs, those slightly aching wrists, the white noise in your legs that makes you shuffle around pathetically and want to lie down all the time, and the sting in your eyes in the shower when those crusts of sweat around your eyebrows dissolve and drip down your face. That's the good pain. Our well-earned pain.

We also both experience that warm and fuzzy endorphin-fuelled sense of achievement (and, perhaps, smugness) that comes with the good pain.

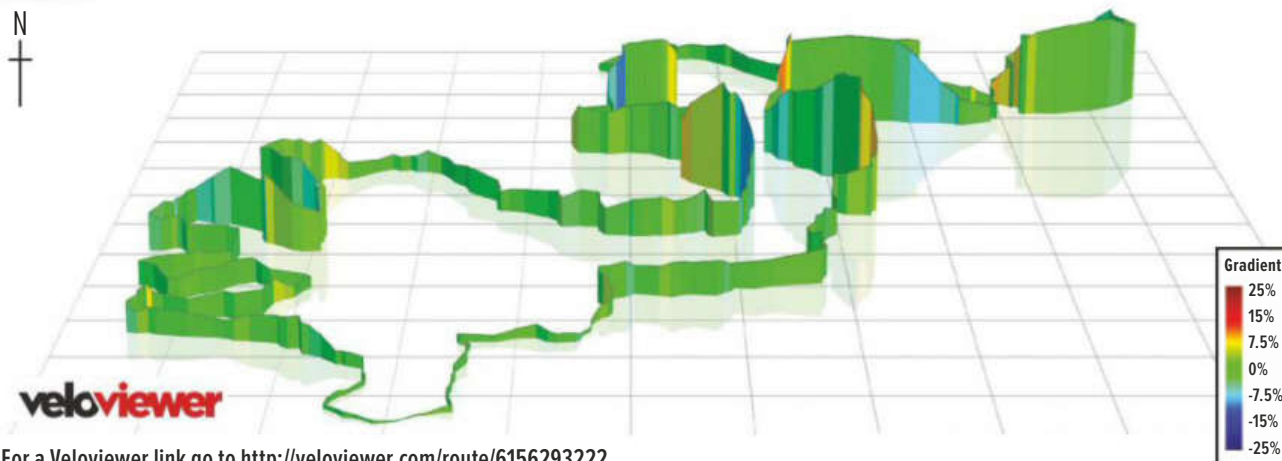
Will probably leaves with a sense of pleasant surprise that his 'break' from cycling hasn't left him as unfit as it could have done, while I leave with the resolve that the next time we meet for a catch up ride I am better prepared.

Next time I'll be ready to give him his dose of back wheel gazing.

THE ROUTE & KEY CLIMBS

Based in the market town of Dorking on October 11, the ride is easily accessible by road and rail from London and the South-East. Parking is available at the event HQ, the

headquarters of Friends Life, which sits in the shadow of Box Hill itself. Food, refreshments and sports massages are all available at the finish area.



For a Veloviewer link go to <http://veloviewer.com/route/6156293222>

CLIMBS

1 Box Hill

A fast, smooth climb; attack the hairpins but leave a bit in the tank for the false flat at the top.

2 Ranmore Common Road

A gentle approach is followed by a steep hairpin bend, although it's short enough to power through to the top.

3 Shere Road

A gentle climb where any steep sections don't last for too long, it's a hill you can comfortably ride at a steady tempo in the saddle.

4 Radnor Road

A fast rise up through the airy forests around Peaslake, home to the number one mountain bike destination in the Surrey Hills.

5 Iron Lane

A deep, dark tunnel of trees that is less than a kilometre long but with enough bite to let you know it's there.

6 Leith Hill

A real toughie but a gentler middle section offers brief respite. There are eight different ways up; a separate event riding every one of them is called 'the Octopus'.

7 White Down Hill

Demanding a flat-out effort, once you complete the shallow preamble it gets very steep and stays very steep. Pace yourself on the first hairpin and cling on for as long as you can.



Map data ©2015 Google



[Route map and profile is available at <http://www.ukcyclingevents.co.uk/events/cycling-weekly-box-hill-original-sportive-2015/>]



£2,100 to £2,650 aero bikes

Aero bikes are becoming increasingly popular but are they only suitable for riders who want to race?

Words: Oliver Bridgewood Photographs: Dan Gould, Mike Prior

What?

Aero bikes feature aero tube profiles, seatposts and often have aggressive geometry to help the rider gain a low position. Aero tube shapes often result in a less comfortable ride and a slight weight penalty over standard road bikes. You could expect the equivalently priced road bike to be roughly 1kg lighter. At this price, aero bikes tend to feature a frameset that is slightly heavier than the premium frames used by the pros and Shimano 105 components are most common.

Why?

Driven by the requirements of professional riders, aero bikes are proven to be faster than their standard road bike counterparts. Experiments have shown that there is an aerodynamic benefit at speeds over 10mph. Considering this, an aero bike will make most riders faster, and you don't have to be Sir Bradley Wiggins travelling at 50kph. Carbon fibre has allowed bike manufactures to use almost any tube shape they desire, allowing for this greater aerodynamic emphasis.

How?

These bikes have been ridden on a variety of roads: quiet country lanes, climbs, and fast A-roads. Crucially, all three bikes have been tested on the same circuits to give a direct comparison of how they handle in the corners and feel on rough surfaces.

Specialized Venge Elite £2,100

Sitting below the range-topping S-Works Venge, as ridden by Mark Cavendish, this model features a bladed handlebar





Cervélo S2 £2,200

Featuring the same frame as its bigger brother the S3, the S2 has the most relaxed geometry in this test

Fuji Transonic 2.1 £2,500

Direct mount breaks and electronic gearing make this an attractive package

Specialized Venge Elite £2,100



Great bike but lacks for a 105 chainset and 25mm tyres

The Venge is famously the bike that Mark Cavendish favours. It was born out of a collaboration with McLaren, which provided its Formula One expertise to optimise the aerodynamics.

Frame

The Venge Elite frame's carbon layup utilises less high-modulus carbon fibre, making it less stiff and slightly heavier than the considerably more expensive S-Works, as ridden by Cavendish, although the two bikes have the same tube profiles and wind-cheating shapes. The seatpost

clamp is interesting and uses a two-bolt design to hold the post in place. This works well.

Specification

The Venge Elite is equipped with a complete Shimano 105 groupset, barring the chainset, which comes courtesy of Praxis. We would prefer to see a 105 chainset. Somewhat irritatingly the 2016 model still comes equipped with 23mm tyres, despite 25mm being demonstrably faster and more comfortable.

The Specialized S-Works carbon aero bar looks the part, and you can attach most out-front computer mounts to it too. One of the key

Specification

Frame Specialized FACT 10r Carbon
Fork Specialized FACT Carbon
Size range 49, 52, 54, 56, 58, 61
Weight 8.48kg
Groupset Shimano 105, Praxis Works chainset
Gear ratios 11 28t cassette, 52/36t mid compact
Wheels Fulcrum Racing S5
Tyres Specialized Turbo Pro 23mm
Bar S-Works Aerofly
Stem Specialized Pro SL
Seatpost Venge
Saddle Specialized Romin EVO Comp
www.specialized.co.uk

contact points, it would make more sense to supply the bike with a 105 chainset and a cheaper aluminium bar that can be swapped.

Ride

Aero tubes are not conducive to comfort and the bikes can often suffer from a harsh ride. The Venge Elite is by no means an endurance bike, but it is compliant and I would happily take it on long rides and on less than perfect surfaces.

One issue I encountered was the saddle slipping on the top of the seatpost. This has happened to other Venge owners I spoke to.

Cornering is excellent, slicing through bends like a sidewinder missile. The low front end is great for when you want to get aero on a descent or sprint for a town sign.

Value

The Venge is great bike, but it suffers on value. For £2,100 a 105 groupset could be expected and 25mm tyres.

7



Effective two-bolt seat clamp design



No 105 chainset

Fuji Transonic 2.1 £2,500



The dark horse of the test, with a top quality spec

Fuji is a brand that may not be on the tip of everyone's tongue but it has considerable heritage. The company started in 1899 and was named after Mount Fuji, a symbol of strength and endurance. Does the Transonic hold true to these principles?

Frame

The heart of the Transonic 2.1 is the C5 high-modulus carbon frame, which has the same features as the ultra-high-modulus C10 used on the more expensive Transonic 1 series frames. The Transonic 2.1 is functional, with Fuji opting to place the direct mount brake on the seatstays, not the bottom bracket.

Specification

For £2,500 you get a full Shimano Ultegra Di2 groupset, complete with direct mount brakes. The proprietary Oval wheels that come with the Transonic are tubeless ready, meaning that despite their weight and lack of aero prowess,



Seatpost cutaway for improved aerodynamics

they are potentially a highly functional training pair. Fuji has been clever with the spec of this bike; I really like how the cheap parts are the parts that I don't want to spend money on, such as the saddle, bars and stem.

Ride

Di2 really is the gold standard and Ultegra shifting is every bit as smooth as Dura-Ace, just slightly heavier. The Fuji is fitted with direct mount brakes, which differ from a traditional caliper by having two mounting/pivot points rather than one, making them more powerful, with greater feel and modulation.

Specification

Frame C5 high modulus carbon
Fork FC 440 Carbon
Size range XS, S, S/M, M, M/L, L, XL
Weight 7.77kg
Groupset Shimano Ultegra Di2 with direct mount brakes
Gear ratios 11 28t cassette, 52/36t mid compact
Wheels Oval 733 aero alloy clincher
Tyres Vittoria Zaffiro Pro Slick 23mm
Bar Oval Concepts 300
Stem Oval Concepts 313
Seatpost Transonic aero carbon, 300mm
Saddle Oval Concepts R500
Size tested M
www.evanscycles.com



Mid-compact chainset

The Transonic 2.1 feels fast and offers a superb ride and handling. A supremely stiff frame translates into a planted and confident feel when diving down descents and flicking it through corners. You do feel lumps and bumps but the Fuji is no boneshaker. The lightest on test, it climbs well, too.

Value

It is the most expensive bike on test but considering the extra outlay is only £400 more than the Venge, you get a lot for your money. The groupset is superb and hits the other two bikes for six.

9

PRESCRIPTION SPORTS EYEWEAR SPECIALISTS



Darren Rhymmer wears Optilabs **MAX** frames with photochromic lenses and prescription optical insert. Plus **FREE** clamshell case & cleaning cloth.

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Evo frame and fork, 20 speed Shimano 105 gearing and Tiagra brakes, Shimano RS01 wheels. RRP £1700 now £1049.99



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Alloy frame, carbon leg fork, 20 speed Shimano 105 gearing and brakes, Easton Wheelset. RRP £1000 now £649.99

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2014 CANNONDALE SYNAPSE HIMOD ULTEGRA
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Cervélo S2 £2,200



A comfortable ride that feels as fast as it looks

Cervélo is widely regarded as the inventor of the 'aero bike' having released its famous Soloist in the early 2000s. The bike was famously ridden by the CSC team and Tour de France winner Carlos Sastre.

Frame

The S2 frame is the same as its bigger, more expensive brother, the S3. What differs is the fork, which is slightly heavier and cheaper. The tube shapes are typically aero but the down tube is shaped specifically to hold a bottle and improve the aerodynamics.

Specification

The groupset is mostly Shimano 105, with the exception of the brakes and chainset, which are FSA. FSA brakes have been supplied to save money, but the chainset is required to be compatible with Cervélo's BBright bottom bracket, for which Shimano does not offer a standard. BBright uses a 30mm diameter spindle and press-fit 30 bearings.

The S2 comes with 23mm Vittoria tyres mounted on solid yet unspectacular Shimano RS010 wheels. Again, 25mm tyres would be preferable. Bars and stem are top quality 3T components.

Specification

Frame Cervélo S2 carbon
Fork Cervélo all carbon S2
Size range 48, 51, 54, 56, 58, 61
Weight 8.27kg
Groupset Shimano 105, FSA Gossamer Pro brake callipers, FSA Gossamer BBright chainset
Gear ratios 11 25t cassette, 52 36t mid compact
Wheels Shimano RS010
Tyres Vittoria Rubino Pro 23mm
Bar 3T Ergonova
Stem 3T ARX
Seatpost Cervélo Carbon Aero
Saddle Selle Royal Seta
Size tested 56cm
www.derby-cycle.com

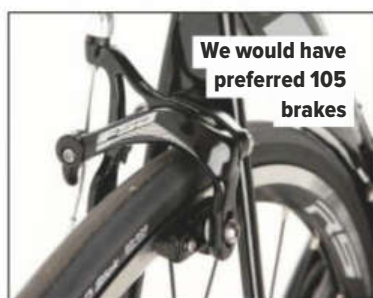
Ride

The S2 has the most relaxed geometry of the three bikes on test but for sprinters wanting a super low front end it may be too relaxed. The higher front end would make this bike ideal for those wanting an aero bike for long rides and sportives. It is comfortable — the skinny seatstays and rear triangle have been taken from the rangle-topping RCA. The stiffness in the BBright bottom bracket is also noticeable. The best thing about the S2 is that it feels like it makes you faster. I briefly tried it with some 60mm DT-Swiss deep section wheels and the combined sensation of aero wheels and frame was spectacular.

Value

The S2 loses marks for the budget brakes and a stiffer Rotor chainset, as found on other Cervélo models, would be preferable. You do, however, get a lifetime warranty and a head-turning frame.

8



We would have preferred 105 brakes



S2 has a slightly heavier fork than the S3

Verdict

The Fuji is hands down the winner in this test. It not only has the best groupset but the direct mount brakes are a big plus point too. The wheels being tubeless ready is a well thought out feature, that makes them useful for training. The specification more than justifies the extra outlay.

All three bikes in this test are very good and I doubt you would be disappointed with any of them.

The Fuji may offer the best spec but it is worth considering exactly what you want from the bike. Different geometries will suit different individuals better, so always try before you buy. The simplest way to analyse the geometry of a bike is to look at the stack and reach, and from this it is clear that the Cervélo S2 is the most relaxed of the three. When you consider the good comfort characteristics and higher front end, the Cervélo could be a good choice for those wanting a do-it-all bike that can tackle a long hilly sportive but also perform well in a criterium or time trial.

The Venge is also a great bike, with superb handling and ride. When you factor in it is the cheapest bike in the test, it represents a superb option for those wanting to dip their toe into racing and criteriums. Without a wind tunnel, it is hard to back up the aerodynamic claims made by manufacturers, but rest assured, all three of these bikes feel slightly faster than a standard road bike.

Compliance

Aero bikes can suffer from a very harsh ride. The aerodynamic tube shapes are often not conducive to comfort, resulting in bone-shaking vibration and white finger inducing riding. The compliance of all three bikes in this test was, however, impressive. Let's not get carried away, none of them is on a level with the cobble-munching Trek Domane, but I would happily take them all on long rides with a mixture of less than perfect surfaces. To put them in order, the Cervélo was most comfortable, with

the Specialized second and the Fuji narrowly behind.

Specification

For £2,000-£2,500 major brands such as Specialized and Cervélo will typically offer a top quality frame, a Shimano 105 groupset and entry level wheels. The Fuji Transonic 2.1 therefore excels, by offering Shimano Ultegra Di2.

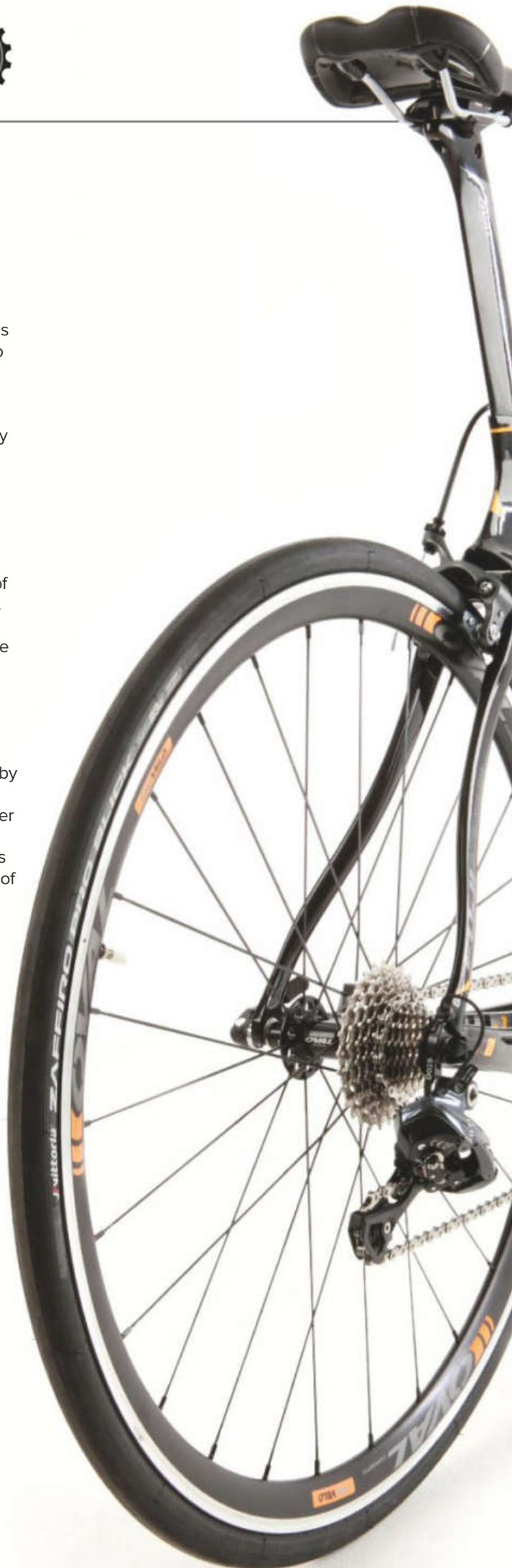
All three bikes and the vast majority of others at this price point have wheels that are well below the quality of the frame. This is more prevalent with an aero bike because a deep pair of wheels is what it is designed for. To make the most of the aero credentials and really experience the speed these machines can offer, budgeting for some deep wheels is worth considering.

Is an aero bike right for me?

When you are riding on the flat, by far the biggest enemy of the cyclist is drag. Typically 70-90 per cent of your energy is spent overcoming drag and most bikes account for roughly 20 per cent of your total drag. Our own tests have shown aerodynamics become significant at speeds of over 10mph, meaning that even beginners will be slightly faster with an aero bike.

Comfort should also be considered. Aero bikes are often less compliant and comfortable than standard road bikes. There is often a slight weight penalty too with aero bikes — the equivalently priced road bike will be roughly 1kg lighter. This is significant. If you regularly ride up long climbs or on less than perfect road surfaces, a lighter, more compliant standard road bike could be a better option.

“To make the most of these machines and really experience the speed they offer, budget for deep wheels”





More feel with direct mount brakes



Fuji frame is fast and stiff

Specialized Venge Elite 7
£2,100

Frame	■■■■■■■■	8
Specification	■■■■■■	6
Ride	■■■■■■■■■■	9
Value	■■■■■■■	6

Distributor	www.specialized.co.uk
Frame	Specialized FACT 10r Carbon
Fork	Specialized FACT Carbon
Size range	49, 52, 54, 56, 58, 61
Weight	8.48kg
Groupset	Shimano 105, Praxis Works chainset
Gear ratios	11-28t cassette, 52/36t mid compact
Wheels	Fulcrum Racing S5
Tyres	Specialized Turbo Pro 23mm
Bar	S-Works AeroFly
Stem	Specialized Pro SL
Seatpost	Venge FACT carbon
Saddle	Specialized Romin EVO comp

Fuji Transonic 2.1 9
£2,500

Frame	■■■■■■■■■	9
Specification	■■■■■■■■■■	10
Ride	■■■■■■■■■	8
Value	■■■■■■■■■	9

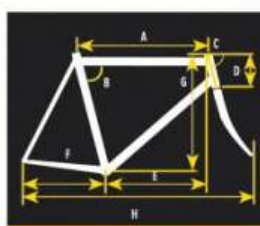
Distributor	www.evanscycles.com
Frame	C5 high modulus carbon
Fork	FC-440 Carbon
Size range	XS, S, S/M, M, M/L, L, XL
Weight	7.77kg
Groupset	Shimano Ultegra Di2 with direct mount brakes
Gear ratios	11-28t cassette, 52/36t mid compact
Wheels	Oval 733 aero alloy clincher
Tyres	Vittoria Zaffiro Pro Slick 23mm
Bar	Oval Concepts 300
Stem	Oval Concepts 313
Seatpost	Transonic aero carbon, 300mm
Saddle	Oval Concepts R500

Cervélo S2 8
£2,200

Frame	■■■■■■■■■	9
Specification	■■■■■■■	6
Ride	■■■■■■■■■■	9
Value	■■■■■■■	6

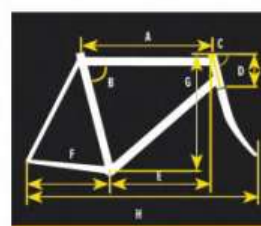
Distributor	www.derby-cycle.com
Frame	Cervélo S2 carbon
Fork	Cervélo all-carbon S2
Size range	48, 51, 54, 56, 58, 61
Weight	8.27kg
Groupset	Shimano 105, FSA Gossamer Pro brake callipers, FSA Gossamer BBright chainset
Gear ratios	11-25t cassette, 52-36t mid compact
Wheels	Shimano RS010
Tyres	Vittoria Rubino Pro 23mm
Bar	3T Ergonova
Stem	3T ARX
Seatpost	Cervélo Carbon Aero
Saddle	Selle Royal Seta

Sleek aero tubing



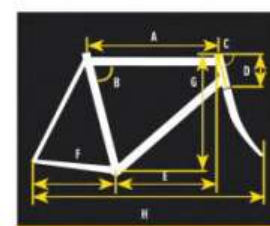
SIZE TESTED: 56

A	B	C	D	E	F	G	H
56.5cm	73"	73.25"	16.0cm	39.5cm	40.5cm	56.6cm	98.6cm



SIZE TESTED: M

A	B	C	D	E	F	G	H
54.5cm	73.5"	73"	13.5cm	38.6cm	40.5cm	53.8cm	97.4cm



SIZE TESTED: 56

A	B	C	D	E	F	G	H
56.4cm	73"	73.5"	17.3cm	38.7cm	40.5cm	58.0cm	99.2cm

Aero wheelsets

Henry Robertshaw tests seven wind-cheating sets of wheels which will sate your need for speed when the going gets flat and fast

What?

Aero wheels generally feature a deeper section rim than standard road wheels, a design that reduces their aerodynamic drag. The deeper section design keeps the air in contact with the surface of the wheel for longer, reducing turbulence and therefore helping you to ride faster. This is especially the case on flatter roads, where higher speeds make aero wheels a no-brainer.

Why?

While most of these wheels are available as both tubulars and clinchers, for consistency and convenience we've

plumped for clinchers all round. And with many manufacturers claiming their carbon braking surface is the equal of aluminium, we have put them to the test in both wet and dry conditions.

How?

While all of these wheels are most at home on flat roads in still, dry conditions, if you're spending this amount of money on a pair of new hoops, you're going to want them to perform whatever the weather or terrain. This has meant miles of testing over varied terrain in all conditions, including blustery crosswinds and driving rain.

Bontrager Aeolus 7 TLR D3 Clincher £2,199.98

The second most expensive wheelset on test, these deep-section Bontragers have been completely redesigned for 2015, with a fatter rim that is 27mm across at its widest point. Bontrager says that this means a smoother interface between rim and tyre (especially the company's R4 aero tyre) to create the world's fastest wheel/tyre system.

Weight

1940 grams

Aerodynamics aside, these wheels are certainly the match of the Zipps and the FFWDs when it comes to stiffness, and I had to work exceptionally hard to generate anything in the way of brake rub.

The blunt rims performed better than expected for wheels of this depth in crosswinds, though I did feel myself getting pushed to the side in very blustery conditions, something that I didn't experience with the Zipps, but never to the point where I was unnerved.

Bontrager does not shout about braking surface, but the wet-weather performance was above average for this sort of wheel, if not quite as good as aluminium rims.

I was also pleased to see Bontrager making these wheels tubeless-ready, if that's the way you want to go.

8

Weight (front) 900g
Weight (rear) 1,040g
Rim depth 70mm
Contact: www.bontrager.com



KEY FEATURES

Rim depth

While deeper is generally faster, this might not be the case in crosswinds or hilly terrain

Braking surface

Carbon generally gives less braking power in wet conditions, so make sure you get a good pair of brake pads

Rim width

Wider rims allow for smoother airflow between the tyre and rims. Toroidal rims feature a bulge designed to aid aerodynamics even further

HOW WE SCORE

- 10 - Superb, best in its class and we couldn't fault it
- 9 - Excellent, a slight change and it would be perfect
- 8 - Brilliant, we'd happily buy it
- 7 - Solid, but there's better out there
- 6 - Pretty good, but not quite hitting the mark
- 5 - OK, nothing wrong with it, but nothing special
- 4 - A few niggles let this down
- 3 - Disappointing
- 2 - Poor, approach with caution
- 1 - Terrible, do not buy this product

DT Swiss RRC 66 Di-Cut Clincher £2,450

DT Swiss has offered up the surprise package in this aero wheel test. At 66mm deep with a V-shaped rim, I fully expected these to be violently unstable in high winds and to be rubbish at anything other than cruising over 25mph. How wrong was I?

Weight 1631 grams
Though I did get pushed around a little, the wheels' performance in crosswinds was better than expected and the relatively lightweight construction helped these deeps feel lively, even below 17mph. This was helped by the decent stiffness and the good rolling capabilities of the DT Swiss hub.

The white spokes look great, while the deep rims gave a great reassuring rumble when out of the saddle. I tested these with a set of yellow SwissStop pads and though the braking was brilliant, the squeal from the front wasn't ideal, something we are sure will settle over time.

The one big downside is the price. For £2,450 you could pick up a very good bike (or two) and however good a set of wheels are, unless you are performing at a high standard of time trialling or triathlon, they're always going to struggle to fully justify this outlay.

Weight (front) 738g
Weight (rear) 893g
Rim depth 66mm
Contact: www.hotlines-uk.com

WTF50 Full Carbon Clincher £999

Wheels That Fly is a new Sheffield-based wheel builder. The handbuilt wheels have 51mm deep aero rims with a 15mm internal and 25mm external rim width. They are built onto DT Swiss 240 hubs with WTF own-brand skewers. There are 20 spokes in the front wheel laced

Weight 1560 grams
radially and 24 at the rear laced two-cross. Tyre pressure limit is 120psi and rider weight limit 100kg. The rims have a gloss black finish with smart WTF50 logos and a braking

surface claimed to be resistant to high temperatures. Braking was certainly adequate with the supplied Swiss Stop brake pads and showed no sign of fade on longer descents. At 1,450g, the wheels are also on the light side for a wheel with a deeper carbon rim.

The WTF50s came out of their padded wheelbags true, and remained that way throughout the testing period. They spin up well and have a satisfying carbon hum once rolling. There is some lateral flex though and it was quite easy to get brake rub when climbing. The wheels transmitted some vibration from uneven road surfaces and my hands felt uncomfortably tingly after an hour or so on typical UK back roads.

Weight (front) 710g
Weight (rear) 850g
Rim depth 50mm
Contact: www.wtf-cycling.co.uk

Zipp 404 Firestrike Carbon Clincher £2,070

New from the self-proclaimed "leading engineers of speed", the 404 Firestrike clinchers are impressive wheels — and so you'd expect them to be if you're shelling out over two grand for them.

Spinning along and there's little to mark the 404s out but accelerate up to speed and they just want to stay there whatever the wind conditions. The profile of the 58mm deep rim makes these the best deep-section wheels I've ever ridden in crosswinds, never finding myself pushed sideways even in very blustery conditions.

Like the FFWDs, the Zips offer very little flex even when throwing the bike from side to side in sprint efforts, although this did mean slightly lower comfort on rough roads.

My only real concern was the braking performance in wet weather: dodgy ground for most carbon rims, but surely not this top-of-the-range pair? Foolishly my first ride on the Zips in the wet was in a race in near apocalyptic conditions, and I have to admit to being a little scared. Braking power was seriously diminished and I found myself reaching for the levers a good second or two earlier than I would with aluminium rims.

Weight (front) 790g
Weight (rear) 960g
Rim depth 58mm
Contact: www.fisheroutdoor.co.uk



FFWD F6R Full Carbon Clincher DT240 £1,570

I enjoyed my time with the FFWD F6Rs. For a 60mm deep rim weighing in at 1,770g, they performed pretty well all round. Clearly not a hilly day companion, but a solid option, even in some pretty rolling road races, I never regretted the

deep-section choice. Braking performance is key when choosing a carbon clincher and with the "special" coating on the TC35 rim, they are predictable and progressive, even in the wet. Although the F6Rs are loud when used with SwissStop pads, the satisfying whirr under braking wasn't an issue for me.

Superstiff high-tensile TC35 carbon rim shod with 20-spoke front, 24-spoke rear DT Aerolite spokes made for a very sprint-friendly wheelset, with little to no flex felt during sprint efforts. This certainly helped the FFWDs feel a little sprightlier at low speed too. Of course, this affects comfort levels but I found them to be more supple than the offerings from Zipp and WTF.

Despite these credentials the Fast Forward F6Rs are most at home on the flat and glide very well when cruising above 20mph. Crosswinds were a factor but, despite the odd blip, I wouldn't be put off using these on a blowy day.

Weight (front) 820g
Weight (rear) 950g
Rim depth 60mm
Contact: www.paligap.cc

Knight Composites 65 £1,648

Knight Composites is a relatively new company that specialises in carbon wheels. It may be a young brand but Knight, based in Bend, Oregon, has more than 30 years in the bicycle and composites industry and it shows.

At £1,648 the Knights are very competitively priced. The rim profile is toroidal and similar to that on the Zipp 404 Firestrikes, resulting in good crosswind stability and the wide internal rim width ensures 25mm tyres sit very well, boosting comfort.

The weight is similar too, with the Knight 65s coming in at 1,806g for the pair — competitive for their size and only 66g heavier than the Zipp's.

Out of the saddle, sprinting at full gas, I was able to detect some slight brake rub in the front wheel, but I should stress that was only slight and was eliminated by loosening of the front brake.

When up to speed, these rims really hold their speed, urging you to go faster. You really feel it and the braking performance is good too. The top quality DT-Swiss 240 hubs finish an all-round superb package, giving added credence to Knight's full bicycle system design philosophy.

Weight (front) 837g
Weight (rear) 969g
Rim depth 65mm
Contact: www.velobrands.co.uk

Edco Livigno £2149.99

I'm not sure about the logic of naming a set of 72mm aero wheels after an Italian ski resort located high in the Alps, but there's no doubting the performance of these Edco wheels. Spin them up over 20mph and it's almost embarrassingly easy to stay there, so if you're looking for a wheel for time trialling, these are more than worthy of consideration.

Although it might be tempting to credit the rim for this speed, the superb Edco Aptera II hubs run incredibly smoothly and are stiff enough to cope when you really put the power down with some hard acceleration.

The wheels are equipped with Edco's MultiSys cassette body which is compatible with Shimano, SRAM, and Campagnolo cassettes, making the wheels simple to switch between bikes and easier to sell on in the future. What's more, the price includes a pair of the superb Continental Grand Prix 4000SII tyres, to make sure that your posh new wheels are shod with some superb rubber that can do them justice.

I did feel that the wheels could have been a little more stable in crosswinds, but this wasn't nearly as bad as I was expecting considering the V-shaped rim and the fact that at 72mm these are the deepest wheels on test.

Weight (front) 868g
Weight (rear) 1,051g
Rim depth 72mm
Contact: www.edco-wheels.co.uk





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Five £1,500-£1,700 endurance bikes

Endurance bikes are the staple of riders primarily focused on tackling epic events. We've tested offerings from five of the largest brands to see how they stack up

Words: Paul Norman Photographs: Dan Gould, Mike Prior

What?

An endurance bike is designed for covering long distances in comfort. The geometry will make for a slightly less stretched out riding position than an out-and-out race bike. This typically means a longer head tube and a shorter reach, sloping geometry and longer wheelbase. Compliance features will be built into the frame to help smooth out road imperfections. The gear range will also be wide, with a compact chainset to help get up steeper slopes while still allowing speed to be kept up on flatter roads.

Why?

Endurance bikes are a popular choice with those looking to cover longer distances but who don't want to race — although many are actually raced by the pros in some of the more gruelling early-season races. They're a good choice for UK road conditions and a major feature of most manufacturers' bike ranges.

How?

We set off into the British countryside to enjoy the late-summer conditions and put in longer rides. We looked to push on too, to see how these bikes performed when ridden more aggressively on hills and bends.





TESTED



Cannondale Synapse Carbon 105 6 £1,500
Slender forks, sculpted rear triangle and a novel split seat tube to smooth the road



Canyon Endurance CF9.0 £1,549
Ultegra-equipped, with quality wheels and a comfort-oriented seat tube and seatpost



Specialized Roubaix Sport £1,500
Endurance geometry, vibration-damping Zertz inserts, tall head tube and long wheelbase



Trek Domane 4.3 £1,700
Trek's Isospeed decoupler separates the seat tube from the frame tubes to boost comfort



Scott Solace 30 £1,599
Chunky down tube, shock-damping rear triangle and a direct-mount rear brake caliper



Cannondale Synapse Carbon 105 6 £1,500



Super-comfortable ride for the longest outings

Cannondale redesigned its endurance frame from the bottom up a few years ago and the Synapse has pretty much every endurance feature imaginable, as well as some novel ones.

Frame

The Synapse's chainstays are flattened to increase vertical compliance and the seatstays are thin and bowed. The tapered head tube is long and there's a stack of spacers to give a really high front end. The Synapse also has Cannondale's unique split seat tube which spreads across the

width of the bottom bracket for rigidity without extra bulk.

Specification

The 105 groupset is par for the course on a bike at this price and provides quality shifting, while the chainset is an FSA Gossamer unit, compatible with Cannondale's BB30A bottom bracket standard. Cannondale provides the bars, stem and well-padded saddle and also the alloy seatpost, which is an extra-narrow 25.4mm for added compliance. Brakes are from Tektro while the wheels are budget Shimano RS10s, shod with Schwalbe Lugano 25mm tyres.

Specification

Frameset Synapse, Ballistec Carbon, Di2 Ready, Save Plus, BB30A
Gears Shimano 105 11 speed, 11 32t
Chainset FSA Gossamer 50/34t
Brakes Tektro R741
Wheels Shimano RS010
Tyres Schwalbe Lugano 25mm
Bars Cannondale C4 alloy
Stem Cannondale C4 alloy
Saddle Cannondale Stage Ergo
Seatpost Cannondale C3 alloy, 25.4mm
Weight 8.97kg /19.36lb
Size tested 54cm
www.cannondale.com

Ride

The Synapse offers a very comfortable ride, even over the most broken surfaces. This is a bike which you can happily ride all day and come back feeling, if not fresh, then a lot less tired than you might. The wide gear range allows you to keep going over the hilliest routes and the solid handling encourages confident descending. It's only let down a bit by the heavy wheelset and the underpowered brakes.

Value

The Synapse's mixed 105 and own-brand spec and budget wheels are a common set-up for bikes at this price point, although swapping the budget wheels would liven things up. The Cannondale's frame offers a super-comfortable ride, which is not bought at the expense of handling. This is a bike that is comfortable out of the box and will bear upgrades to really bring out its true colours.



Slim seatstays add to comfort



FSA Gossamer chainset

9





Canyon Endurace CF 9.0 £1,549



Fast and light, boasting a full Ultegra groupset

German direct sales brand Canyon has a reputation for selling quality bikes with high specifications at very sharp prices. The Endurace is its carbon endurance bike and follows this trend for great value.

Frame

The square-section tubes and 86.5mm bottom bracket shell combine to give plenty of lateral stiffness at the junction between the chainstays and down tube. The seat tube is ovalised, so that it can provide some front-to-rear flex while also being laterally stable.

Forks are slender, full carbon with a tapered steerer and have a claimed weight of only 340 grams.

Specification

The Endurace is the odd one out in this test by offering a full Shimano Ultegra groupset — one step up from the 105 found on the other bikes on test. There's an Ultegra compact chainset, although with a 28-tooth largest sprocket the cassette offers less low end than the other bikes tested. Wheels are also top quality with DT Swiss R23 Spline wheels shod with Continental's range-topping 25mm GP4000S II tyres.

Specification

Frameset Canyon Endurace CF
Gears Shimano Ultegra 11 speed, 11 28t
Chainset Shimano Ultegra 50/34t
Brakes Shimano Ultegra
Wheels DT Swiss Spline R23
Tyres Continental Grand Prix 4000S II 25mm
Bars Canyon H28 Road alloy
Stem Canyon V13 alloy
Saddle Fizik Aliante Versus
Seatpost Canyon S14 VCLS 2.0 carbon, 27.2mm
Weight 7.66kg / 16.85lb
Size tested Large
www.canyon.com

Canyon adds its VCLS carbon seatpost, which has a split design to increase compliance and comfort at the Fizik saddle.

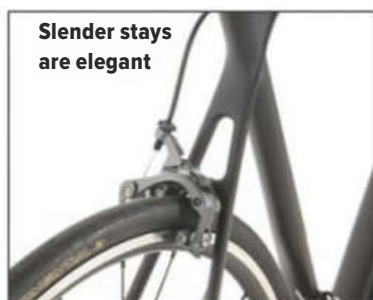
Ride

At almost a kilogram lighter than the next lightest bike on test, this bike feels fast. The wheels are also light at around 1,600 grams. The lack of weight also compensates for the absence of lower gears, so the Endurace does not feel a grind to get up hills. The riding position is quite upright, which relieves pressure on the upper body. The ride, however, is not particularly compliant.

Value

The Endurace's spec shows just how much Canyon's direct sales model can deliver — it's head and shoulders above the other bikes tested. The ride, however, is not particularly comfortable although that lack of heft means the Canyon is fast.

9



Slender stays are elegant



All-up weight is best in test



Specialized Roubaix Sport £1,500



Distinctive riding position but a rather uninspiring ride

Specialized's Roubaix range includes bikes that have been used to win early-season professional races, where its stability and vibration damping features help with handling and control over uneven road surfaces. Its frame proudly displays its racing palmarès.

Frame

The Roubaix was the original endurance bike, with its sloping geometry and high head tube designed to seat the rider in a more upright position. Specialized also adds its proprietary Zertz inserts to

the forks and the seatstays. These are elastomer blocks that sit in the frame tubes help to absorb road buzz. The wheelbase is long too, which adds stability to the ride. As with most of the other bikes on test, cables are routed internally for a clean look and less maintenance.

Specification

This is another bike with 11-speed 105 shifting, a broad gear range and some swap-outs for own-brand items. The chainset is an FSA Gossamer BB30 unit, while the brakes and wheels are from Specialized's Axis range. The 25mm tyres, the Body Geometry saddle

Specification

Frameset Specialized SL4
FACT 8r carbon
Gears Shimano 105
11 speed, 11 32t
Chainset FSA Gossamer
50/34t
Brakes Specialized Axis 1.0
Wheels Axis 2.0
Tyres Specialized Espoir
Elite 25mm
Bars Specialized Comp
alloy
Stem Specialized Comp
Multi alloy
Saddle Specialized Body
Geometry Toupé Comp Gel
Seatpost Specialized CG R,
FACT carbon 27.2mm
Weight 8.93kg
Size tested 56cm
www.specialized.com

and the alloy bars and stem are also own-brand items. The seatpost is a Specialized CG-R carbon model that features a unique kinked design to improve comfort.

Ride

That long head tube puts the bars very high and the long wheelbase and low fork angle give a lot of stability. The design does a good job of damping out road vibration, although larger hits from potholes are still transmitted to the rider. The sum of its comfort features results in a ride that is not very engaging though, and gives a rather inert feel.

Value

This is another bike with a mix of 105 and own-brand components — pretty much the norm at this price point. The novel carbon seatpost and the Body Geometry saddle are quality items, but the rather spongy brakes and heavy wheels balance this out.



Tall head tube
aids comfort



Quirky post
reduces buzz

Trek Domane 4.3 £1,700



Trek's decoupler adds extra saddle comfort

Trek's road bike range includes the race-oriented Madone, the ultra-light Emonda and the bike we have on test here, the Domane endurance bike.

Frame

The unique comfort feature of the frame is Trek's IsoSpeed decoupler, which acts as a mechanical pivot between the seat tube and the rest of the frame, increasing the amount of deflection which can occur at the saddle. The bike's reach is quite short which, along with the longish head tube, promotes quite an upright riding position. Unlike the

other bikes in this test, the Trek's cables are routed externally.

Specification

Yet another mixed Shimano 105 groupset, with the chainset swapped out for a Shimano RS500 compact together with non-branded brakes. The cassette is an 11-32t for lots of climbing range and some top-end speed. The Bontrager wheels — Trek's own brand — are tubeless ready and shod with Bontrager (non-tubeless) Hard-Case Lite 25mm tyres. Bars and stem are alloy while the seatpost is a carbon model, all also from Bontrager.

Specification

Frameset 400 series OCLV carbon
Gears Shimano 105 11 speed, 11 32t
Chainset Shimano RS500 50/34t
Brakes Unbranded alloy dual pivot
Wheels Bontrager TLR
Tyres Bontrager R1 Hard Case Lite 25mm
Bars Bontrager Race Lite Isozone alloy
Stem Bontrager Race Lite alloy
Saddle Bontrager Paradigm 1
Seatpost Bontrager carbon, 27.2mm
Weight 9.08kg
Size tested 54cm
www.trekbikes.com

Ride

The Domane feels comfortable and stable, although the bike's weight tells once the road heads upwards. Its vibration damping is not quite as good as the Cannondale or the Specialized with quite a lot of road buzz transmitted through the bars. This is alleviated somewhat by the handlebar tops, which are ovalised to provide a bit of extra cushioning and comfort. The short top tube and stem promote quite an upright riding position, which also helps take pressure off the hands.

Value

Trek's unique take on frame compliance and some useful components such as the tubeless-ready wheels and carbon seatpost go some way to justifying the Domane's price. But this is the heaviest bike on test, there are some swap-outs for cheaper components and overall there's little to set it aside from its rivals.



The damping isn't the best



ANT+ ready speed sensor

Scott Solace 30 £1,599



A sporty feel, but at the expense of ride comfort

Scott's Solace range has a slightly shorter reach than its race-oriented Addict range and a higher stack, resulting in a more upright position which is more comfortable for long rides. Scott does not take this more relaxed geometry as far as some of the other bike makers, though; the Solace has a racier feel.

Frame

The Solace's frame is made of Scott's HMF carbon. It has a chunky down tube that spreads at its base to take up a lot of the space available across the wide

BB86 press-fit bottom bracket. This and the robust head tube ensure rigidity for efficient power transfer; the other tubes are a little skinnier, adding compliance.

Specification

The Scott has a typical spec for a bike at this price: 105 shifting and front and rear mechs, though the chainset is a non-series Shimano model and wheels are budget Shimano RS11-A. There's a standard Shimano 105 front brake but the rear is a Tektro direct-mount unit, situated under the bottom bracket. All the other components come from Scott's

Specification

Frameset Solace HMF/IMP carbon
Gears Shimano 105 11 speed, 11 32t
Chainset Shimano RS500 50/34t
Brakes Shimano 105 front, Tektro 740 direct mount rear
Wheels Shimano RS11 A
Tyres Schwalbe Durano 25mm
Bars Syncros RR2.0 alloy
Stem Syncros FL2.0 alloy
Saddle Syncros FL2.5
Seatpost Syncros carbon 27.2mm
Weight 8.60kg
Size tested 54cm
www.scott-sports.com

in-house Syncros brand. Bars and stem are alloy but there's a carbon seatpost for some extra damping.

Ride

There's a lively feel to the bike and it's responsive to efforts and steering input. The low weight and geometry are more aggressive than some of the other bikes tested. This is bought at the expense of a rather harsh ride, however. On lumpy back roads, lots of vibration gets through to the saddle and the bars. Braking is adequate but not excellent.

Value

The Solace is bang-on for an endurance bike at this price, with some modern features such as the under-bottom bracket direct-mount rear brake and the extra-wide press-fit bottom bracket. It's good to see a Shimano 105 front brake too, an item often jettisoned to cut costs. The carbon seatpost helps dampen buzz.



Direct-mount rear brake



Skinny stays add flex





Verdict

There's a bit of a split developing in the endurance bike category, with newer entrants such as Look and Wilier offering bikes with a more upright riding position and some endurance features but which are not full-on endurance bikes. These are often called endurance race bikes to differentiate them from their pure endurance counterparts. They're designed for faster riding but with some comfort features added.

The bikes on test straddle this divide, with the Specialized Roubaix, the Trek Domane and the Cannondale Synapse fitting into the full endurance category while the Scott Solace and the Canyon Endurance offer a less compliant and more sporting feel.

Compliance

Endurance bikes major on ride comfort and in this department the outstanding bikes here are the

Specialized and the Cannondale. The Specialized's Zertz inserts and its kinked seatstays and forks aid vibration damping, although this is bought at the expense of an unexciting ride. On the other hand, the Cannondale's compliance features add up to a very comfortable ride without feeling disengaged, and the flex zones built into the chainstays, seatstays and forks soak up road vibration well.

The Canyon, the Scott and the Trek are not quite as comfortable on UK roads. There's more vibration transmitted to the rider, particularly through the bars, although Trek's ovalised bar tops help to alleviate this somewhat.

The ride

The most comfortable bikes on test — the Trek, the Cannondale and the Specialized — all come in at around 9kg and a lot of this weight is in the wheels. This adds some stability but results in quite a lot of effort being needed to get

the bikes rolling and keep them going up hills.

The Scott is around half a kilogram lighter and does feel more lively for it. But the Canyon's 7.66kg is extremely competitive for a bike at this price, and with a lot of the weight difference being in its wheels and tyres this really results in a much more urgent feel.

Specification

A mixed 105 groupset is pretty much par for a bike at this price point. The Scott, Specialized, Cannondale and Trek all have mainly Shimano 105

gearing, with swap-outs of chainsets either for cheaper Shimano units or for FSA chainsets, which provide BB30 bottom bracket compatibility. With the exception of the Scott's front unit, these bikes also use non-series brakes too. It's common for manufacturers to use own-brand bars, stems and seatposts and all the bikes here follow the trend.

"The Canyon's 7.66kg is extremely competitive for a bike at this price, and this results in a much more urgent feel"

The stand out though is the Canyon, with its full Ultegra groupset including the brakes, which leads to noticeably better stopping and brake modulation. Unlike the other bikes on test it also has a branded saddle, although I didn't find the supplied Fizik Aliante Versus saddle comfortable. However, Canyon's build-to-order sales model means that you can easily change it.

Again with wheel and tyre choice, the Canyon is the exception, its quality DT Swiss wheels being lighter and more responsive than the rather heavy budget items specified on the other bikes.

Buying

Although direct vendors such as Canyon offer more for your money, high street retailers offer the chance to see the bike and test ride it before you buy.



DT Swiss wheels are light and responsive



Canyon: unbeatable value for money

A retailer will often swap out items that you want to change. A direct vendor should offer some flexibility in spec too, but choice will be limited.

A shop will also set up your bike for you before you take it away and you will usually get a free appointment after a few weeks' riding to check the bike over and make any adjustments necessary.

In conclusion

If you want a super-stable ride, the Specialized is a good bet, while the Cannondale is more interesting to ride and sacrifices nothing in comfort. But accept a bit less road compliance and the Canyon has to be the best buy; it's lighter, better equipped and just feels faster and more exciting to ride than the competition.

Cannondale Synapse Carbon 105 £1,499	Canyon Endurance CF 9.0 £1,549	Specialized Roubaix Sport £1,500	Trek Domane 4.3 £1,500	Scott Solace 30 £1,599
Frame	Frame	Frame	Frame	Frame
Specification	Specification	Specification	Specification	Specification
Ride	Ride	Ride	Ride	Ride
Value	Value	Value	Value	Value
Distributor	Distributor	Distributor	Distributor	Distributor
Frame	Frame	Frame	Frame	Frame
Fork	Fork	Fork	Fork	Fork
Size range	Size range	Size range	Size range	Size range
Weight	Weight	Weight	Weight	Weight
Groupset	Groupset	Groupset	Groupset	Groupset
Gear ratios	Gear ratios	Gear ratios	Gear ratios	Gear ratios
Wheels	Wheels	Wheels	Wheels	Wheels
Brakes	Brakes	Brakes	Brakes	Brakes
Tyres	Tyres	Tyres	Tyres	Tyres
Bar	Bar	Bar	Bar	Bar
Stem	Stem	Stem	Stem	Stem
Seatpost	Seatpost	Seatpost	Seatpost	Seatpost
Saddle	Saddle	Saddle	Saddle	Saddle
SIZE TESTED: 54	SIZE TESTED: L	SIZE TESTED: 56	SIZE TESTED: 54	SIZE TESTED: 54
A B C D E F G H	A B C D E F G H	A B C D E F G H	A B C D E F G H	A B C D E F G H
542mm 73° 9 72.0° 16.6cm 37.6cm 41cm 57.6cm 99.6cm	555mm 73° 5 73.25° 17.5cm 38cm 41.5cm 59cm 98.9cm	565mm 73.25° 72.5° 19cm 38.7cm 41.5cm 58.9cm 101cm	542mm 73.7° 71.5° 16cm 37.4m 42cm 57.5cm 101cm	545mm 74° 72.5° 16.5cm 38.1cm 40.5cm 57.1cm 98.7cm



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GROUPTEST

£100-£150 helmets

Your helmet could be the most important piece of kit you buy. We try 10 of the best mid-range lids for safety, comfort and style

What?

Protecting your skull is a helmet's somewhat obvious raison d'être, but safety doesn't have to come at the expense of comfort or style. Top of the range helmets derived directly from those worn by the pros can cost in excess of £200, but take a step or two down the hierarchy and you'll find an abundance of light, stylish and comfortable helmets priced between £100-£150.

Why?

While some of us may have a top-end lid that we keep aside for race or event days, or an aero option for riding time trials, the mid-range price bracket featured here is

the go-to for everyday riding and offers a good balance between performance, style and value.

How?

We've selected 10 helmets in the £100-£150 price range and tested them for fit and comfort, ventilation, and to see how easy they are to adjust on the move. Further comparisons we made included how they fared on the scales and what, if any, extras come with the helmet as standard. Finally, while looks may not be everything, if you're going to ride safe you might as well look good doing it, so we're also looking for flattering, contemporary, low-profile designs.

Louis Garneau Course £129.99

Take a first glance at the Louis Garneau and the word 'retro' springs to mind. Doing away with the tail-fin that features on most modern road helmets, Louis Garneau claims that the Course lid "bridges aerodynamics and ventilation".

While we're unable to vouch for its performance in the wind tunnel, the 31

Weight vents and internal channels did make the helmet feel airy and cool, even on one of the warmest days during the test.

The 'Spiderlock PRO II' internal fit system pulls the helmet in at the temples by way of a large indexed wheel at the rear. It cradles the head securely enough, but with no vertical adjustment, it relies on the flexibility of the inner to sit in the right place.

While we found the Course comfortable enough, the rearmost strap rubbed the back of both ears and was a little distracting. Obviously that's a personal fitment issue, but perhaps also a good reminder to try before you buy. Extras come in the form of spare padding and rear red light.

7

Sizes: S, M, L
Colours: Black, red
www.evanscycles.com



KEY FEATURES

Fit

The helmet shouldn't sit so far back on your head that you can't see it. Straps should divide neatly just below the ear

Ventilation

More holes equals more ventilation, but can increase the overall shell size

Additional features

Integrated lights, aero shell covers and built-in visors all add value

HOW WE SCORE

- 10 - Superb, best in its class and we couldn't fault it.
- 9 - Excellent, a slight change and it would be perfect
- 8 - Brilliant, we'd happily buy it
- 7 - Solid, but there's better out there
- 6 - Pretty good, but not quite hitting the mark
- 5 - Okay, nothing wrong with it, but nothing special
- 4 - A few niggles let this down
- 3 - Disappointing
- 2 - Poor, approach with caution
- 1 - Terrible, do not buy this product

Bell Gage £149.99

For us the Gage helmet is the real looker of this test, with this black and red version easily fitting into a line-up with significantly higher priced helmets.

The 26 vents and internal air channelling worked well during a hot day in the saddle and with the usual internal reinforcement, but weighing an impressively light 208g, the Gage is both strong and light.

Weight

208
grams

Bell's Twin Axis Gear (TAG) fit system offers two adjustments — both circumference and vertical to accommodate differences in head shapes.

However, it goes to show that no matter how much you want a helmet to fit, sometimes it's just not meant to be. We found that it created distinct forehead pressure points, and no matter how many tweaks were made, the helmet still had a tendency to slowly roll back on the head.

For more 'round-headed' riders, this could well be a perfect fit and when combined with its great looks and low weight, the Bell Gage is one of the standout helmets in this test.

8

Sizes: S, M, L

Colours: Matt black, white/black/red, white/blue, white/orange/blue, black/red (as tested)

www.zyro.co.uk



Spiuk Dharma £119.95

The Spiuk Dharma represents incredible value for money. Included in the box are a clip-on aero cover, clip-on peak, removable internal insect mesh and a microfibre bag, covering pretty much every eventuality and cycle sport you choose to indulge in. The fit for our tester was good straight from the box with only a quick tweak of the straps and 'W-FIT

Weight

218
grams

82' fit system needed to ensure it hugged the back of the head, with an indexed roller ratchet making it pretty much perfect.

On the road it proved so comfortable it was easy to forget it was there. We didn't test the Supercage front protection system, happily, but we can vouch for its ventilation, which uses a V-shaped design to pull air through the 20 large vents. With such large openings, the insect mesh inner is a handy addition.

Spiuk isn't the best-known brand, but at less than 220g this helmet proves that you really can have strength, low weight, looks and fit. While not exactly cheap, it's far from the dearest lid here. In this test it's a runaway winner that's hard to fault.

10

Sizes: S/M, M/L

Colours: White, black, black/white, red/white, red/black, blue/black, green/black, yellow/white, world champion replica

www.silverfish-uk.com



BBB Icarus £119.95

The old-school looks reminded us of the 'hairnet' helmet days of yore, but BBB tells us that this design is all down to the Airflow cooling system that provides optimal airflow over the head. While this may be true for the majority of the helmet, a combination of the vent location and padding right at the front gave us an extra-hot forehead that all

Weight

252
grams

but cancelled out the other cooling benefits.

As with all the helmets on test, a strong focus is on safety. With the Icarus, BBB says that extra helmet reinforcement and the inclusion of a web at the rear ensures that even if a large impact cracks the helmet, it should still remain relatively intact.

Weighing just over 250g and with plenty of adjustment via BBB's 'Flexclose' cradle system, the Icarus should be a well-fitting and comfortable lid. Unfortunately for my head shape, there were a couple of pressure points, making it one of the least comfortable lids here. It may be a perfect fit for some, but with no extras as standard and basic looks, there is better value to be found elsewhere.

7

Sizes: 52-58 (M), 58-62 (L)

Colours: Matt white/silver, red/white, black/neon yellow, blue/white, Team FDJ replica

www.windwave.co.uk



Giro Amare II £99.99

A women's-specific lid, the Amare II clearly takes its design and feature cues from helmets further up Giro's range. With 26 vents and internal channelling, the temperature remained comfortable, even on a brisk ride on a warm day. Giro's RocLoc 5 fit system is easy to adjust on the fly, thanks to a simple indexed dial at the rear of the cradle, but in order to

Weight

266
grams

achieve a secure fit, it pushes the forehead into the front of the helmet, and while not terribly uncomfortable, it did leave a noticeable impression for an hour or so.

The volume of vents, pointy tail-fin finish and low-profile fit makes this a very good looking helmet that certainly competes in the looks department with much more expensive options. With unusual colour schemes and decals it offers riders a left-field alternative to the usual suspects. This does potentially create an issue with trying to match up lid and Lycra, but at the cheaper end of the price scale, more than one may be a solution for some. There may be better options out there, but for less than £100, it's hard to beat.

8

Sizes: S, M

Colours: Black/white, matt titanium dots, white brush strokes, white scrawl
www.zyro.co.uk



Lazer Grace £149.99

One of the larger, heavier helmets on test, the women's specific Grace's bulk provides a lot of side and temple protection and feels incredibly secure.

Lazer's proprietary Rollsys fit cable system prevented any pressure points by tightening evenly across the skull, holding the inner cradle away from the outer shell. With a relatively large up/down vertical fit

Weight

280
grams

at the back, and a non-indexed roller on top of the helmet, the fit can be finely adjusted, making the Grace incredibly comfortable, despite the weight penalty.

With only 17 vents, it was one of the warmer helmets on test, but this was really only noticeable on the hottest days. It's an option for all riders looking for the Volvo of the helmet world — plenty of health and safety features, suitable for a broad range of head shapes, and isn't too shabby in the looks department, either.

Coming with a soft bag, matching cap (ideal for wet-weather rides), extra padding and magnetic clips for the compatible Lazer Magneto glasses, you can't go far wrong.

9

Sizes: S, M

Colours: White/blue, white/coral, black/blue
www.madison.co.uk



Scott Vanish 2 £99.99

With probably the smallest silhouette here, the Vanish 2 packs a lot of functionality into a compact package. Comfort was mostly superb, with an airy feel despite a very close fit. Scott says this is due to the Vanish being shaped into a slight peak at the back, which allows air to flow easily through the helmet. Combined with the 24 vents,

Weight

250
grams

it was certainly very well ventilated.

Scott's MRAS2 fit system features dual adjusters and cradles the head comfortably. One allows the cradle system to be moved up or down; the second is a dial at the back that adjusts the fit to millimetre perfection and is easy to use on the move. The helmet straps were, however, anchored too far back on the shell and sat too close to the neck when clipped together, meaning we had to wear the straps looser than is ideal. Weighing a respectable 250g, the multiple EPS helmet is one of the best-looking on test.

Complete with a soft helmet bag it punches well above its price bracket — if the fit works for you.

8

Sizes: S, M, L

Colours: Black/neon, orange camo/black, white/black
www.scott-sports.com



Kask Mojito £120.00

We really liked the look of the Mojito. It was easy to set up thanks to Kask's Up-N-Down internal cradle that uses pivot points to allow vertical adjustment. A double closure of a push/pull ratchet, which is then fine-tuned with a roller wheel, made this a really comfortable fit.

Weight

228
grams

The traditional straps are linked with a thick, white leather chinstrap, that Kask says helps avoid skin irritation. While we found it comfortable enough, it certainly won't be to everyone's tastes.

The light lid was well ventilated thanks to the 26 vents and internal channelling. One downside was that the rear retention device interfered with the arms of numerous sunglasses we tried. It meant wearing the arms either under or over the plastic retention system, but it was soon forgotten about while riding, and ultimately proved to be one of the most comfortable lids on test.

There are no extras as standard, but it hits the mark when it comes to price, weight and comfort.

8

Sizes: M, L

Colours: Blue, white, black, black/grey: grey/aqua, yellow, orange
www.velobrands.co.uk



Abus Tec-Tical Pro V2 £99.99

Given the fact that this helmet boasts no fewer than 31 vents, you would expect the cooling to be second to none, a perfect option for riding on hot days. However, most of the vents are quite small, and perhaps fewer, larger vents may have been more effective.

Weight

252
grams

Adjustability is taken care of by a dial at the rear. This offers plenty of scope to make sure that it will fit your head, and we didn't have any problem fitting a cotton cap underneath the helmet.

However, compared with some of the other helmets on test, the adjustment system feels pretty flimsy and although I didn't have any problems during my few weeks testing the helmet, long-term durability might prove to be a problem.

One thing that isn't an issue is comfort. There's plenty of padding all around the inside of the shell, plus a really neat smaller pad underneath the chinstrap that does a great job of preventing rubbing and irritation.

7

Sizes: S/M, M/L

Colours: Black/red, black, white/red, white/blue
www.zyro.co.uk



Cannondale Cypher £99.99

The Cypher is Cannondale's top of the range helmet and does an excellent job of cooling thanks to a generous 30 flow-through vents. When riding in 30°C heat I found the helmet very comfortable, with the moisture-wicking pads doing a good job. The retention system features a nice chunky pad at the rear and is very comfortable while providing a wide range of adjustment. In common with other quality helmets, the padding is removable for washing or replacement. A separate shell that fits over the vents to improve aerodynamics is also available at extra cost. The downside is that the shell can make things a little sweeter.

Weight

233
grams

The Cypher is quite narrow with a distinctive silhouette. Its looks may not appeal to all, but the quality and excellent functionality certainly should.

For the price this helmet is superb, offering a low weight and level of comfort that is comparable to many far more expensive helmets.

8

Sizes: S/M, L/XL

Colours: Green, black/green, silver/black, white/lime
www.cyclingsportsgroup.co.uk



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Is it time to ditch the compact?

Henry Robertshaw finds out if the mid-compact chainset is the new sportive king

There was a time when a rider had little choice when it came to the size of his chainrings. Component manufacturers were obviously under the impression that every weekend warrior was as strong as an ox, and slapped on the same 53/39t (or even 53/42t) chainset that the pros were riding in the Tour de France.

However, in the late Nineties and early Noughties things began to change. First we saw the introduction of triple chainsets with three rings at the front, but these were quickly usurped by the revolutionary 50/34t compact chainset, which offered a similar range of gears as a triple, but without the need for redesigned derailleurs and shifters.

And for over a decade that was that, with the cycling world split down the middle between serious racers sticking steadfastly to their 53/39t chainrings, and everybody else switching to the far more versatile compact.

The benefits of this latter system are numerous, as Joshua Riddle, PR officer for Campagnolo explains: “50/34t chainrings help a rider maintain a higher cadence, not only on climbs but also on the flat.

“If one were to build up a compact chainset with a 11-25t cassette, to

maintain the same speed the cadence would obviously need to be higher when compared with the same cassette run with a 53/39 chainset.”

This higher cadence is particularly useful for riders taking part in longer events. “Higher cadence, within reason, tends to fatigue the muscles less than mashing a big gear,” continues Riddle. “It will also leave the athlete fresher after having covered the same ground as an athlete who is pushing harder on a bigger gear with a lower cadence. It also allows less powerful riders to maintain a comfortable cadence without crossing the chain.”

But although the benefits of a 34-tooth little ring are clear when climbing, the 50-tooth big ring of a compact chainset can prove to be a slight handicap when coming down the other side. This is particularly the case if you’re riding the long, open descents often found in the Alps and Pyrenees, where it can be quite easy to spin out once you reach speeds approaching 45mph.

The solution to this problem was the mid-compact chainset. This comes with 52- and 36-tooth chainrings and has taken the cycling world by storm over the last couple of years.

Now, you might think that this just means that you’re forced to turn over a bigger gear, making you work harder to climb steep hills. Strictly speaking this is true, but for Canyon UK’s marketing manager Nick Allen things aren’t as clear-cut.

“The biggest, 52-tooth ring

corresponds roughly with the heaviest gear of a standard 53-tooth ring which eradicates the traditional compact chainset problem of spinning out on long descents,” he says. “Plus the lower [36-tooth] chainring in conjunction with an 11-28t cassette corresponds roughly with the lightest gear of a compact chainset with an 11-27t cassette.”

However, with the latest round of groupset updates from the big brands, you’re no longer limited to a 28-tooth

sprocket at the rear.

Both SRAM and Shimano now offer medium cage rear derailleurs for all of their groupsets below the top-of-the range Red and Dura-Ace groupsets. This means that you can fit

anything up to a 32-tooth pizza dish of a cassette which, when combined with the 36-tooth small ring of a mid-compact chainset, offers a smaller climbing gear than was previously available with a compact chainset and 11-28t cassette.

Certainly most manufacturers seemed convinced of the benefits of the mid-compact, at least for riders willing to splash out on a more expensive bike. Specialized, Scott, Canyon, and Giant attached mid-compact chainsets to most bikes in the top half of their ranges, with only a smattering of high-end machines still coming equipped with 53/39t chainsets.

On this evidence, a mid-compact looks to be the most adaptable set-up. Combined with a 28 or even 32-tooth sprocket at the back it isn’t too far off the smallest gearing offered by a compact chainset, while a 52-tooth big ring is going to be more than enough for the vast majority of riders on all but the very fastest descents.

So is the mid-compact ready to take over as our chainset of choice? If you’re looking for a single set-up to get you through most situations over most terrains the answer is probably yes, but





Compact or mid-compact? Both have benefits

Shimano's Ben Hilsdon still feels there's a place for standard and compact chainsets in the cycling world.

"If I'm doing a long mountainous sportive and I've been riding mountains for my training then I might be comfortable enough riding my standard chainring," he says, "but if I've been exclusively training on the flatlands of Holland with a tailwind then I'd be very grateful for some smaller gearing."

This seems like sensible advice for

anyone thinking of rushing down to the local bike shop for a mid-compact. Consider the sort of riding you'll be doing and, being honest with yourself, your strength as a rider.

A mid-compact is probably the most versatile option, but if you want to be certain of making it up the steepest hills and always have a gear in reserve for that last climb at the end of an Alpine sportive, then a compact is still your friend.

Industry view

Ben Hillsdon



**Shimano Europe
PR officer**

Cycling Active: Why did you decide to start offering a mid-compact chainset?

BH: To give a bit of background, historically it was always the case that a compact chainset had a different bolt circle diameter to a standard chainset. That changed in 2012 with the introduction of Dura-Ace with a four-arm spider (fitting both compacts and standards), which was subsequently rolled out on Ultegra, 105 and Tiagra. With the ability to swap chainsets to suit different riding conditions it made sense to also offer the middle ground of a 52t big ring and a 36t small ring. This is what we call a rider-tuned system: the ability to adjust your components to suit your riding style.

CA: What sort of rider can you see choosing a mid-compact?

BH: It's not so much about the sort of rider, it's about the sort of riding. To oversimplify it, if you have the luxury of three groupsets, choose a standard for all-out sprinting power, choose a mid-compact when you've got rolling terrain, nothing too steep, and choose a compact for your Alpine holiday. Of course, many riders are able to accomplish those three things with the same groupset. There are too many variables to identify a certain rider with a particular type of gearing.

CA: Has the compact chainset had its day now that you can cater for 32t sprockets?

BH: Of course not. 32t sprockets are just one more option to give riders more useable gears and more versatility from their bikes. It's not that any one choice is better these days. You just pick what makes life easiest for you, whether that be in ease of riding, ease of maintenance or ease on your wallet.



FSA SL-K Light Chainset £499.99

Most of FSA's chainsets are now offered in mid-compact, and this top model is one for the weight weenies at only a smidgen over 500g.



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GROUPTEST

Long-sleeve jerseys

With autumn approaching and temperatures dipping, *Henry Robertshaw* picks out four long-sleeve jerseys to keep the chill at bay

What?

Not a jacket, not a lightweight jersey, long-sleeve jerseys sit midway between the two. Designed to be worn over just a baselayer, they're not for really cold days, but the extra protection provided by the sleeves and added insulation should be enough to keep the autumn chills at bay, especially if you're one for early-morning rides.

Why?

On a typical autumn day, a long-sleeve jersey should keep you warm enough. Intended for cooler temperatures, some

of these jerseys feature thermal properties, so it will be interesting to see how they fare, on the move, against lighter-weight competitors.

How?

Aware that the changing of the clocks is not far ahead — they go back an hour on October 25 — we made the most of the last light evenings to head out on a final few after-work rides. We wanted to put these jerseys to the test in typical autumnal conditions — chilly breezes and the thermometer stuck firmly in the low to mid-teens.

Scott RC Team LS £54.99

With half the kit on the market seemingly only available in black (or dark grey if you're lucky), Scott RC Team jersey's green-on-green design is certainly eye-catching and sure to make you stand out from the crowd.

Like the Odlo jersey, the Scott has a

Weight
165
grams

fairly lightweight fabric, which gives it excellent breathability. It's a great choice if you want something to chuck on at the start of the day then wear without overheating as the temperature rises through the

day. However, look elsewhere if it's proper warmth you're after.

What I liked the most about the Scott jersey is its comfort. The polyester fabric is soft on the skin and the relaxed fit will also be welcome if, like me, your enthusiasm for eating cakes has overtaken your enthusiasm for riding come the end of summer.

Thankfully the loose fit doesn't extend to the collar and cuffs, which are snug and do a much better job at keeping arms warm than the Odlo or dnb, although comfort is compromised by the lack of material behind the zip, meaning it rubbed against my neck.

This minor issue aside, the Scott jersey is a great choice for warmer autumn rides.

8

Sizes S-2XL

Colours White/red, black/grey, black/red, green (as tested)

Contact www.scott-sports.com



KEY FEATURES

Zip

A full-length zip allows better cooling when warming up on the climbs

Fit

A tighter fit will be more aerodynamic, but perhaps at the expense of comfort

HOW WE SCORE

- 10 - Superb, best in its class and we couldn't fault it
- 9 - Excellent, a slight change and it would be perfect
- 8 - Brilliant, we'd happily buy it
- 7 - Solid, but there's better out there
- 6 - Pretty good, but not quite hitting the mark
- 5 - OK, nothing wrong with it, but nothing special
- 4 - A few niggles let this down
- 3 - Disappointing
- 2 - Poor, approach with caution
- 1 - Terrible, do not buy this product

Thermal protection

Manufacturers will often give a temperature range depending on a jersey's insulation

Odlo Telegraphe LS

£100

A Norwegian brand with origins in ice skating and cross-country skiing might not be your first port of call when looking for a cycling jersey. However, now that Odlo clothing is available from Wiggle, the Scandinavian kit is more accessible than ever to British cyclists.

Weight As the Telegraphe name suggests, this is a jersey designed for the mountains. It will keep you cool while climbing, helped by the full-length zip; zipped up, it'll also keep you warm while descending. Unlike the dhb and Lusso jerseys, this one provides little in the way of thermal protection. Its light and breathable material makes it better suited to rides in warmer conditions. Thus, this jersey would be ideal during an Indian summer, but less so in typical autumn conditions.

That said, the sleeves offer a level of warmth similar to most arm-warmers, meaning this jersey would probably see you through until it was time to drag the proper jacket out of the wardrobe. However, the loose fit meant some of its warmth was lost in breezy conditions as cool air made its way up my sleeves and caused some flapping in the wind. For the price, I'd expect better.

7

Sizes S-2XL

Colours Blue (as tested), black

Contact www.odlo.com



dhb Windslam LS

£44.99

Despite being the least expensive jersey on test, the Windslam probably features the best, most advanced, construction. The back and sleeves are made from a lightweight polyester material (similar to that used for the Scott jersey), while the main front panel is made from a more

Weight wind-resistant fabric, complemented by a taped full-length zip. For chilly autumn rides this is an ideal design, providing the sort of warmth that you'd expect from a combination of gilet, short sleeve jersey and arm warmers – three items that you'd struggle to pick up for less than 50 quid.

dhb's designers have done just as good a job with the smaller details. The three rear pockets offer plenty of space for provisions on those long weekend ride, and there's a sweat-resistant valuables pocket, thoughtfully positioned at the centre to prevent your keys and phone tugging the jersey down at the sides. Reflective details on the front, rear and sides also provide a little extra safety as the nights draw in.

My one slight gripe was the loose fit of the sleeves, which allowed chilly air in at times, but I'm willing to let that go thanks to the impressive price.

9

Sizes XS-2XL

Colours Blue/black (as tested), red/black, silver/black)

Contact www.wiggle.co.uk



Lusso Classico LS

£59.99

Think of a flourishing British cycling clothing brand and the names Rapha, Vulpine and Morvelo might be the first names to spring to mind — but if you're after kit that's truly British born and bred, then Lusso may be the way to go.

Weight All of the brand's clothing is both designed and manufactured in Manchester, as is reflected in this Classico long-sleeve jersey. The light fleece provides a good level of insulation for the unpredictable temperatures of the British autumn, while the high collar and snug-fitting cuffs do a great job of keeping the advancing chill at bay.

Breathability is also good, considering the warmth on offer, with tiny pores built into the fabric. However, it isn't as impressive as the lighter and almost as warm material used by dhb in the Windslam jersey.

The two other concerns I have are with the zip and the design. The full-length zip is a plus, but it lacks a tab, which makes it fiddly, and it rubbed against my neck when fully zipped up. The design might not be to everyone's taste, with the retro style and 'Lusso' emblazoned across the chest splitting opinion with the CA team.

8

Sizes S-2XL

Colours Lime, blue (as tested)

Contact www.lusso.bike



Cycle computers

Oliver Bridgewood looks at four units that monitor your performance with minimum fuss

What

At the £65-£110 mark, cycle computers are packed with technology and typically offer GPS functionality, either independently or via your smartphone. Elevation can be calculated with GPS, or more accurately with altimeters. Some units in this price range can be paired with other accessories, such as cadence and heart rate sensors and power meters, too. At this price computers should be free from wires.

Why

Computers around this price point have more functions and provide more data than entry-level units. Metrics such as heart rate, cadence and power give you much more information as to how your

effort relates to your surroundings. Some computers are able to record GPS ride data, which can be uploaded to sites such as Strava and Training Peaks. If you just want to keep a diary of your progress and mileage or just see where you have been, how fast you went and how many metres you have climbed, a GPS unit of around £100 should suffice. However, if you want mapping/directions, you'll need to spend upwards of £200.

How

We have tested the computers on our commutes and longer weekend rides. They have been judged on the following criteria: ease of use; how simple they are to set up; value; number of functions; and how well they work.

Garmin Edge 20 £109.99

Incredibly easy to use and very, very small, I was seriously impressed by the Garmin Edge 20. It's the perfect option if all you're after is a relatively inexpensive computer to record your rides and stick them on Strava when you get home. The interface of the Edge 20 is so simple to

Weight

24
grams

use that you should be able to pick it up in only a few minutes even if you're new to Garmin's products. Four buttons around the outside turn the unit on and off, let you scroll through menus,

and look at one of the two data screens that the Edge can offer. Not that there's that much data to look at. Propping up the bottom of Garmin's range of cycling computers, this unit can only tell you a handful of metrics (speed, distance, time, average speed, total ascent, and calories), and there's no option to connect via ANT+ or Bluetooth to a cadence sensor, heart rate monitor, or any other device. However, given the price, this isn't too much of an issue, and if you want these features then 30 quid more will get you the Edge 25. So you're really buying the Edge 20 for its GPS function (which is very accurate) meaning you can join the Strava crowd without breaking the bank.



9

Contact: www.garmin.com

KEY FEATURES

Screen size

Screens can vary in size. Pick one that you can read easily

Wireless

At this price computers are free from wires, making them much tidier

Bluetooth

Other sensors, such as speed/cadence and heart rate can be connected via ANT+ or Bluetooth

Buttons

At this price, computers tend to have buttons rather than touch screens. These should be easy to operate with gloved hands

HOW WE SCORE

- 10 - Superb, best in its class and we couldn't fault it
- 9 - Excellent, a slight change and it would be perfect
- 8 - Brilliant, we'd happily buy it
- 7 - Solid, but there's better out there
- 6 - Pretty good, but not quite hitting the mark
- 5 - Okay, nothing wrong with it, but nothing special
- 4 - A few niggles let this down
- 3 - Disappointing
- 2 - Poor, approach with caution
- 1 - Terrible, do not buy this product



Sigma BC 14.12 Alti £74.99

The key difference between the Sigma and other units on test is that there is no GPS functionality built into the unit itself, or through connecting it to your smartphone. If that is something you are specifically looking for then you should look elsewhere. However, it is not on

Weight

27
grams

everyone's shopping list. Other things to be aware of are that the data screens are not customisable and the unit isn't designed to be used with power meters.

Those niggles aside, the unit is robust, easy to use and comes with a wireless cadence sensor and magnet. The design is very neat and scores top marks for practicality. Similar to Garmin, Sigma uses heavy-duty rubber bands to mount the computer and sensor. This makes swapping between bikes much easier than zip ties. As well as the usual speed, distance and time data fields, the unit also displays altitude metrics, making it especially useful for those wanting to see how much height they have climbed, their current altitude and max altitude. Battery life from the CR2032 coin cell is great, and the unit gives you a useful low battery warning, advising you to change before it runs out. A feature not to be overlooked is the backlight, which is invaluable in low light conditions.

7

Contact: www.moorelarge.co.uk



Topeak PanoComputer £64.99

The PanoComputer can be bought with its own speed and cadence sensor, which attaches to the chainstay with a cradle and zip ties. The sensor is quite neat and fits solidly to the stay. It also comes with various sensor magnets to suit different wheel and crank set-ups.

Weight

33
grams

It's Bluetooth enabled and couples easily to the head unit. The head unit itself is compact and comes with its own out-front mount, although I found that it had a tendency to rattle a bit. There's a

single button on the top to change mode and two small recessed buttons on the bottom to configure and reset the computer. The top line of the display is easy to read, although I found that the lower parts of the display were a bit of a squint. The speed and cadence data seemed stable, but I found that the computer would occasionally drop the connection and the data would disappear for a few seconds before reappearing. The PanoComputer can also be coupled to a smartphone to receive speed and location data and to transmit ride statistics to Topeak's analysis site. The Remote Monitor Mode allows you to carry your smartphone and display its GPS generated ride information on the computer's 2.3in screen.

7

Contact: www.extrauk.co.uk



Cateye Padrone Smart £79.99

Like the Topeak PanoComputer, the Cateye Padrone Smart bike computer pairs with your smartphone using Bluetooth and displays GPS data from it on the computer's screen. This means you can keep your phone safely in your pocket out of harm's way. Because the

Weight

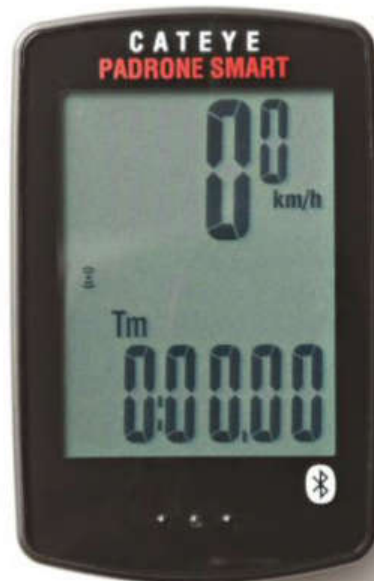
30
grams

phone's screen is not required, your battery lasts longer, too. The Cateye Smart is available in the UK for £79.99 for the computer alone, packaged with a Bluetooth speed/cadence

sensor for £124.99 or with the speed/cadence sensor and a heart rate strap for £179.99. Additional Bluetooth sensors can be purchased, although fitting sensors to your bike with zip ties is a pain compared with the simplicity of the Sigma's bands. This highlights an advantage of the Sigma, which can easily be switched between different bikes in seconds. However, Bluetooth connectivity means that a host of third-party products and power meters can be used with this unit, giving it a distinct advantage over the Garmin 20 and Sigma. It takes a little getting used to, but once accustomed, the Padrone is easy to use. At 30g it is a very light unit with a big screen that is easy to read. Its connection to your phone means that it alerts you if you get a call or text, too.

8

Contact: www.zyro.co.uk



How to clean a bike

James Bracey takes you through the finer points of cleaning your bike to a showroom finish



Every serious cyclist loves a clean bike, the way it shines and seems to scream 'ride me'. When your bike is clean you just know it will be a great, quiet and trouble-free ride. The upshot of having a clean bike is a reduction in the cost of replacing parts — a clean bike will last longer and be nicer to ride.

Regularly cleaning your bike allows you to get hands-on with its unique aspects and you soon become attuned to its character and make-up, its many moving bits and even the bits that don't move. Treat it with the love and care it deserves — after all, you and it share many long hours together and you don't want to be let down at an inopportune moment.

I'm not saying you need to devote hours on cleaning. I must confess I used to spend ages stripping down my bikes to their component parts and painstakingly hand cleaning every bolt and link of the chain until they gleamed and then proceeded to take it out for a ride and get it filthy again. Life is too short to spend more time cleaning than riding so here is my tried and trusted cleaning regime that will get your bike back to tip-top condition in less than 20 minutes.

Time taken
20
MINUTES



JAMES BRACEY
CA MECHANIC

Self-confessed bike geek and senior bike fit technician at Pedal Heaven in Fleet, James rides for Pivot Boompods RT and has raced across a variety of disciplines for nearly 25 years.

Tools

A basic cleaning kit should include the following essentials:

General purpose bike cleaner, e.g. Muc-Off Nano Tech

Drivetrain degreaser, e.g. Finish Line Citrus Degreaser

Water dispersant spray, e.g. Muc-Off Bike Spray, GT85, WD40

Chain lube, wet or dry (your choice) e.g. Finish Line Teflon Dry Lube

Bucket

Sponge/s

Brushes

Clean rags

NON ESSENTIAL BUT USEFUL

Hose/jet wash

Chain-cleaning device

Bike polish

Bike workstand



1 GRIMY AREAS

With the bike set up on a workstand (or propped up) spray it all over with the bike cleaner, paying particular attention to any really grimy areas such as behind the brake calipers, under the fork crown and under the bottom bracket area. Leave to work in for a few minutes.



2 DEGREASING

Using the degreaser, spray directly on to the chain (backpedal to make sure all of the links are covered). Other areas to use degreaser are anything that the chain touches, i.e. chainrings and chainset, front and rear derailleurs and cassette. Leave for a few minutes to work in.

Tip

The jockey wheels can collect congealed black oil. Make sure you get rid of this (use a thin screwdriver or cassette brush) or it will smear straight back on your nice shiny chain.



Tip

Old toothbrushes and nail brushes work well on grimy transmission and brake parts.

3 GET SCRUBBING

If you have neglected your poor bike you might need to use a set of brushes to loosen the ground-in dirt. You can buy specific sets of brushes to clean certain parts of your bike or just use household brushes making sure that they are not abrasive or likely to damage any delicate parts. If it is not too bad you can still use a sponge to agitate the cleaner. Make sure you clean your wheel rims of old brake residue as well as the brake pads themselves.



4 RINSE AND REPEAT

Starting from the top parts of your bike (saddle, handlebars and top tube) use clean warm water and a sponge to rinse off the dirt and cleaning products. Turn bike upside down and repeat steps 1-3 as the underside will normally be even more filthy.



5 DRYING

If it is warm and sunny give the bike a few minutes to dry off. I'm normally too impatient to wait so I tend to give the bike a shake and turn it upside down to let any water that has pooled drain out. A quick spin up and down the road will fling water from hubs, gears and any other rotating parts. Finally, use a clean, absorbent cloth to dry the bike in this order:

- Handlebars and shifters
- Saddle and seatpost
- Main frame
- Wheels and brakes*
- Drivetrain*

*Use different cloths for these parts

6 WATER DISPERSANT/LIGHT LUBE

Using Muc-Off Bike Spray or equivalent, spray a fine mist over the frame and most moving parts, backpedalling to make sure the chain is coated. This will disperse any water that is left hiding and so prevent any nasty surface rust that often appears the day after you have cleaned your bike. If your water dispersant comes with a thin straw, you can use it to accurately aim at the parts of the derailleurs, shifters and brake calipers that need lubricating.

DO NOT spray onto wheel rims or brake pads. Use a clean rag to shield these areas if spraying near them.

Leave for a few minutes and then use a clean cloth to wipe off any excess, finishing off with the chain by wrapping the cloth around the chain and backpedalling to remove any grimy residue.



Tip

Most parts on modern bikes are made of materials that do not rust. The exceptions to this rule are the small bolts in places such as handlebar stems and seat clamps — so make sure you spray a little on these parts.

7 POLISH (OPTIONAL)

For that real showroom finish and to add another layer of protection you can apply a fine coat of bike polish to the main frame before buffing to a shine with another clean cloth. This will not only make your frame 'pop' but sticky dirt and road debris will find it harder to stick to it, meaning easier cleaning next time. If you're using a spray polish, be careful to avoid any braking surfaces.

Tip

No polish? Don't worry! A fine spray of GT85/Bike Spray or any thin Teflon lube can be applied and then buffed off with almost the same results.



8 CHAIN LUBRICATION

Now your bike is clean and shiny, the last step is to lubricate the chain. Mostly I would recommend a dry chain lube for road bikes. Dry lubes tend to pick up less dirt from the roads so you are less likely to end up with horrible black marks all over your legs or gunky streaks on your chainstays. The only downside of dry lube is that it wears off after a couple of rides so you need to reapply regularly. If you are lazy/ride in the rain lots/really like cleaning then

use wet lube — it lasts for ages and doesn't get washed off but does pick up a lot of dirt so gets the classic black, oily look pretty quickly.

How to apply: you only need a small amount applied to the inside of the rollers of each chain link so don't drown your chain. Place the nozzle above the lower part of the chain and let the lube dribble on to the chain as you backpedal two or three revolutions. Leave for 10 minutes and then wipe off any excess. Go ride!

Saddle up and see off heart failure

New study recommends cycling 20 minutes per day to optimise heart health

Good news for cyclists: moderate physical activity is associated with a lower risk of heart failure in men, says a recent study.

According to the research, which was published in the *Journal of the American College of Cardiology: Heart Failure*, men who participated in activities such as cycling had a significantly lower risk of heart failure compared to those who took part in both lower and higher-intensity activities. The study even goes on to state that recent active behaviour may play a more important role than past physical activity.

Heart disease is responsible for 82,000 deaths in the UK each year and there are over 1.6 million men and more than a million women who suffer from the condition.

Healthy middle ground

Researchers followed more than 33,000 men from 1998 until 2012 to determine if physical activity was associated with heart failure risk.

Based on questionnaires and self-reported physical activity classifications, they concluded that men who had the lowest and highest levels of physical activity had a higher risk of heart failure, 47 and 51 per cent respectively, than men with a median level.

Examples of the highest activity levels included long-distance running. Cycling 20 minutes per day was linked with the largest risk reduction.

To stay healthy or improve health, National Health guidelines advise exercising aerobically for 150 minutes a week, and to supplement this with strength exercises. Many cyclists exercise far more than 150 minutes a week — a lot regularly ride their bikes for up to six or eight hours. Is this too much and is it dangerous?

“Most road cyclists will obviously exceed this recommendation but let’s not forget that this is a suggestion made for the sedentary population to become more active in the study,” says Dr Will Mangar of InDurance Profiling and lead doctor for the Tour of Britain. “Many cyclists will get maximal health benefits by commuting a couple of times a day from anything between 20-60 minutes each way, which will look after heart, lungs and mind. Many of these rides will be at variable intensity as new HIT training studies may indicate greater health benefits. So cyclists shouldn’t worry about riding for more than 10 hours per week as long as they ensure correct recovery and nutrition.”

U-shaped curve

The study’s authors were still keen to stress that the link between physical activity and heart disease is still not fully understood. Heavy physical activity, for example, may put stress on the body, which in turn can have adverse effects on the heart.

“The U-shaped relationship between exercise levels and the likelihood of subsequent heart failure is a unique finding and will stimulate further research in the important field of prevention,” said Christopher O’Connor, editor-in-chief of the *Journal of the American College of Cardiology: Heart Failure*.





Inside the pain cave

Intervals can be fun... sort of

I'm a bit weird. In fact other cyclists look at me, when I tell them what I'm about to tell you, with a range of expressions varying from mild bafflement to outright incomprehension.

Why? I like turbo-training. Not the churning-while-staring-glassy-eyed-at-a-garage-wall variety — I'm not that weird. Rather, I make good use of the stupendous technology that transforms the indoor experience from ocean-going boredom to big fun, whether that be Zwift, sweating up virtual Alpine climbs on hi-def video, or turning myself inside out in Sufferlandria.

The best tech builds in intervals to make indoor cycling a serious structured session. Game-quality graphics, virtual racing or stunning video provide distractions from interval hell but to make indoor cycling count when it comes to spring there's no getting away from the fact that you've got to work hard.

And what is it with intervals? How can three minutes going really hard seem like 30, while the five-minute recovery interval speeds by in a moment? How can time be so bendy?

Albert Einstein can help us out here. Asked to provide a simple explanation of his theory of relativity, he volunteered: "Put your hand on a hot stove for a minute, and it seems like an hour. Sit with a pretty girl for an hour, and it seems like a minute. That's relativity."

I don't think the great scientist ever did a three-minute interval at 130 per cent of FTP — but it sounds like he knows what it feels like — a hand on a hot stove.

Simon Schofield rides the turbo for fun and won't have a bad word said about it

Soft drinks: cut them out!

According to a new, worldwide study, sugary soft drinks kill a staggering 184,000 adults every year. In what is one of the first studies to estimate deaths and disability from diabetes, heart disease, and cancers caused by the drinks, it said 133,000 deaths from diabetes, 45,000 deaths from cardiovascular disease and 6,450 deaths from cancer were caused by fizzy drinks, fruit drinks, energy drinks and sweetened ice teas in 2010.

The study, which was published in the journal, *Circulation*, comprised of 62 dietary surveys of 611,971 individuals conducted between 1980 and 2010 across 51 countries, along with data on the availability of sugar in 187 countries. Based on meta-analyses of previous studies that looked at the health harms of sugar-sweetened beverages, it calculated the direct impact on diabetes, cardiovascular disease and cancer.

"Many countries in the world have a significant number of deaths occurring from a single dietary factor:



sugar-sweetened beverages," says Dr Dariush Mozaffarian, Dean of the Friedman School of Nutrition Science and Policy at Tufts University in Boston. "It should be a global priority to substantially reduce or eliminate them from the diet."

A can of Coke can offer an instant lift when energy runs low but it's important to remember that fizzy drinks provide almost zero nutritional benefits and are best avoided away from vigorous exercise.

PER 100ML	GRAMS OF SUGAR
Coca-Cola	10.6
Mango & passion fruit smoothie	12.2
Red grape juice	16.3

Recommended

The Stick from £27.99

The Stick is a practical alternative to a post-ride massage and can be used to aid recovery by helping to increase blood flow as well as releasing tension and knots that may have formed in the muscles.

One of the benefits of The Stick compared to other self-massage tools is the ability to precisely control the pressure you put on your muscles.

The sprinter stick (pictured) is ideal in terms of

portability, but other versions are available in varying lengths and degrees of stiffness, allowing you to find a complete solution that's relevant for different body types, muscles and sports.

If you are looking to eradicate any niggles you may be carrying, or perhaps looking for an alternative way to look after your aching muscles, then this simple-looking stick may be the way to go.

www.the-stick.co.uk



Wahoo scales £69.99

Anything that can be measured can be managed. Once you have quantifiable data to work with you can start making changes and measuring how effective those changes are. Weight loss is no exception; various research studies have even shown that simply monitoring and recording weight regularly helps in maintaining or losing weight.

Wahoo is a big player in cycling products with its smart turbo, the Kickr, being a market leader for indoor training.



The Wahoo scales are built on similar principles of outstanding connectivity and ease of use. These scales will send your weight via Bluetooth to connected weight loss apps such as MyFitnessPal, Apple Health or MapMyFitness.

Simple graphs show your weight, BMI and progress towards your target weight.

If you are monitoring your weight for fitness and performance these sleek-looking scales will be a useful tool for recording your progress.

www.uk.wahoofitness.com



This month **IT'S ALL ABOUT THE BASE**

October's a funny month. Traditionally, it's when we kick back and celebrate a season well-riden; rest, regroup and think about next year's goals. It's also the perfect time to gradually get back into the swing of regular riding, before the weather worsens and the light fails, and while our hard-won summer fitness is more than a fading memory of glories past. This first instalment of our new monthly training plan is designed to help you ease back into building that base, and establish some habits that will make winter's inevitable challenges easier to face



USING THE TRAINING PLAN

First choose your plan. The Challenge Plan is for riders building up to mid-distance sportives, events where you will be riding continuously for up to five hours. The Epic Plan is for those targeting 100 miles and beyond, in events that may also feature large amounts of climbing. So far so normal, but these plans are different. We don't tell you exactly when to do each ride. Instead we're going to give you the tools to fit the rides into your life. Just try to do similar rides on the same days each week, keep hard rides apart, and make sure you always take one day off riding each week.

Key sessions for this month



LONG RIDES

Non-stop, even-paced lactate threshold (LT) riding lays the foundation on which other training builds. Long rides like this will begin to train your body to burn carbs more gradually, increase the density of mitochondria in your muscles, and even make your muscle fibres more suited to aerobic efforts — all of which will boost your overall efficiency.



CADENCE VARIATIONS

Riding at high cadences seems to boost efficiency slightly more than riding 'normally', possibly because you simply turn the pedals more often. Riding at low cadences in a big gear, meanwhile, generates a lot of torque, which prepares your body to handle higher intensities, steep climbs and fast, flat riding.



(NOT VERY) HARD HILLS

Blood lactate and acidity begin to rise as soon as you push beyond LT. And sooner or later that will force you to slow down. Purposefully pushing just above that threshold is the first step towards improving your ability to clear that acidity, sustain higher outputs and handle repeated hard efforts.



STEADY-STATE RIDES

Ride right up at the top of Zone 2 and you're essentially driving your LT power output up by constantly nudging it from below. And that, in turn, should push all the outputs and zones above it up slightly. It's also a great way to refine your pacing, gear shifting and approach to changing terrain.



SHORT SURGES

It's always useful to stay in touch with very high outputs and very hard efforts — if for no other reason than that it stops them seeming truly daunting when they become the core of your training. But there's also evidence to suggest that very hard, high cadence efforts are another easy way to boost efficiency.

GAUGING YOUR EFFORT

Improving your fitness and increasing your speed has a lot to do with doing the right training, often enough, at the right time. That means knowing how hard to work and how hard you're working is key. The rides in our plans are described in terms of time in different zones. Hold the required level as evenly as possible for the time required and you'll know you're doing the right work.

Zone	Effort	You can...	%MHR	%FTP (Power)	%FTP (Heart Rate)
1	Easy	Speak, sing and even dance!	65% or below	up to 55%	up to 68%
2	Slow	Chat freely	around 70%	56-75%	69-83%
3a	Steady	Just about hold a conversation	around 75%	76-85%	84-90%
3b	Brisk	Speak in single sentences	around 80%	85-90%	91-94%
4	Threshold	Bark short phrases!	around 85%	91-105%	95-105%
5	Hard	Only get out the odd word	around 90%	106-120%	106% or more
6	Very Hard	Grun! Gasp! Pant!	N/A	121-150%	N/A

Terminology

Maximum heart rate

Heart rate is an indicator of how hard your body is working — the higher the heart rate, the harder you're working. Once you know your maximum heart rate (MHR) you can work out your own personal training zones — you'll need a heart rate monitor.

You can use the following formulae to predict your MHR without even turning a pedal:

MEN: $214 - (0.8 \times \text{age})$

WOMEN: $209 - (0.9 \times \text{age})$

For a more exact figure, use this simple test:

■ Ride Easy for 15-30 minutes, finishing at the bottom of a long, steady hill.

■ Ride up the hill for five minutes at a nice, Brisk pace, then coast back to the bottom.

■ Climb the hill again. Start at the same Brisk pace, but this time increase your effort every 30 seconds. When you reach the point where you can push no harder, stand on the pedals and sprint until you have to stop.

■ Coast back to the bottom and repeat step three again before riding home.

You'll probably hit your MHR somewhere towards the middle of the third ascent. (You will need a heart-rate monitor that records maximum heart rate to be able to perform this test properly).

Once you have established your MHR, simply use the MHR column in the table below to set your own heart rate zones.

Functional Threshold

Your functional threshold (FT) is the best average effort you can possibly manage in one hour of non-stop riding. Thankfully, you don't need to suffer for an hour to work this out. Instead, use the following test ride (devised by Hunter Allen of Training Peaks) to calculate a 'real-world' FT:

■ Ride Easy for 20 minutes.

■ Do 3 x 1min at a high cadence (120rpm) in a small gear with one minute Easy after each.

■ Ride Easy for a further four minutes.

■ Ride as hard as possible for a further five minutes.

■ Ride Easy for 10 minutes.

■ Ride as hard as you can for 20 minutes.

Aim to finish the 20 minutes having given absolutely everything you have. (You'll need to be able to record an average power or heart rate for the 20-minute all-out effort.)

Afterwards, work out the average power or HR for that final 20-minute effort, and multiply that number by 0.95. This will give you your FT, which you can then use to calculate your training zones, using the percentages in columns five and six, depending on whether your number is a heart rate or a power rating.

CYCLING ACTIVE
★ ★ ★
**TRAINING PLAN
CHALLENGE**
DISTANCE
OCTOBER

CADENCE VARIATIONS

A simple but effective session at a steady intensity level but with a valuable mix of pedalling cadences



Your most technical ride this month is simple preparation for the winter's work ahead.

Ride in Zone 2 and at around 90-95rpm apart from four 10-minute blocks. In the first week, first and third blocks should be done in Zone 2 but at 105rpm, and the second and fourth blocks should be done in Zone 2 at 75rpm. Each time you do the ride, try to increase the high cadence blocks by 5rpm, and decrease the low cadence blocks by 10rpm — always without shifting from that even, Zone 2 effort.

Stay in the saddle for all the blocks, and try to relax and turn the pedals smoothly without slipping or stalling. If you find you're bouncing on the saddle at the higher cadence, just back off and relax for a moment, then gradually work the cadence back up until you're just a little below the cadence that made you bounce at first.

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	1-2	Sip every 10min
Energy gels	0	
Energy bars	0	
Recovery drink	0	

How many times this month

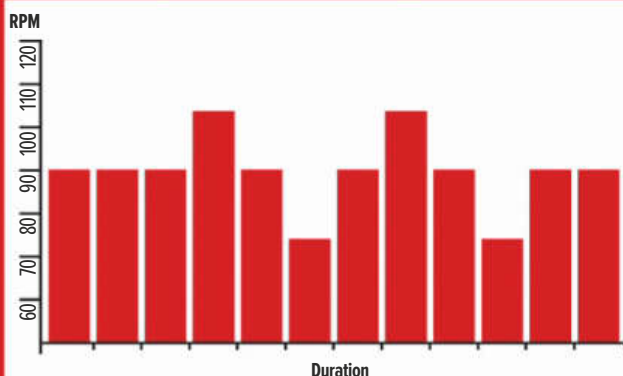
3x

Duration (hr)

2

Intensity

65%



LONG RIDES

Long, steady rides are the traditional way to build a strong base of aerobic fitness. It sounds simple, but steady doesn't mean easy... you may find this session tougher than you anticipate



Discover a new way to spread your effort to build greater fitness as you gradually rebuild your weekly long ride.

The classic approach to the long ride is to head for the hills, ride up them hard, wait for the stragglers at the top and then pootle to the next hill or fit in a tea stop.

That's fine, and fun, but it's basically a giant interval session with long recoveries. However, if you want to build a base to reach a new level of fitness and speed, your ride needs to be more focused.

TIP

Be careful not to go too hard, even if you're feeling good

Keep it steady

So, for now, stay away from the big hills, and concentrate on riding in the top half of Zone 2 for as much of the ride as you can. Start with just two hours for the first ride, and take the ride up by 15-20 minutes each time. Keep your cadence around 90-95rpm, and get into the habit of fuelling properly. Aim for 500ml of fluids and 60g of carbs (which is about half a bottle of carb drink plus half an energy bar) each hour. If you want a tea stop, stick it at the end of the ride!

If you are used to smashing up the climbs this may feel frustrating, but take careful note that you are remaining in Zone 2.

How many times this month

5x

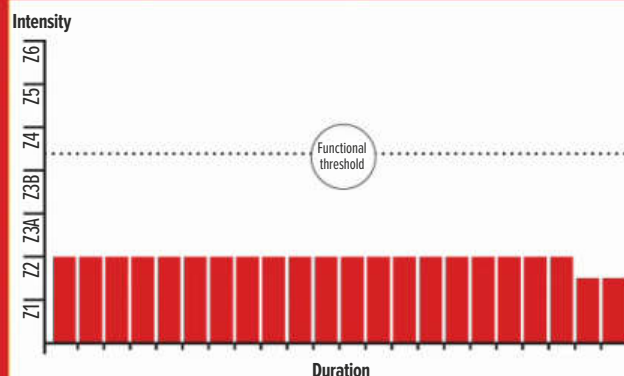
Duration (hr)

2-3

Intensity

65%

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	2-3	Sip every 10min
Energy gels	0	
Energy bars	1-2	Every hour
Recovery drink	1	ASAP



(NOT VERY) HARD HILLS

Your hardest ride of the week, this session is all about getting your effort levels dialled in



You want a rolling route for this ride, with climbs that take between 10 seconds and a minute to climb and non-technical descents. Start out by riding for 15-30 minutes at a nice, even Zone 2 effort and a cadence of around

90-95rpm. Then start alternating the effort so that you climb at a Zone 3a effort and descend and ride on the flat at Zone 2 for the next 60 minutes. Try to stay seated on all but the steepest climbs, but let your cadence slip down towards 80rpm if it helps you keep an even effort. Then finish the ride with a block back in Zone 2.

To progress this ride, simply extend the duration of that middle block by 10 minutes each week without changing total duration or the efforts you ride at. And, if you're really struggling to find a good route, you can adapt it into a structured interval session by repeating this sequence for the duration of the main work block: 15sec Z3a/45sec Z2, 30sec Z3a/30sec Z2, 45sec Z3a/15sec Z2, 1min Z3a/2min Z2.

A cyclist's instinct is often to attack hills, so this session is an exercise in control in more ways than one. Remaining seated as much as possible will also test your core strength and stability on the bike. Your glutes should be working hard to maintain your smooth, strong pedal stroke, your upper body stable, with no rocking or wrenching on the bars, even when the gradients are tough and you have to drop the cadence try to maintain a rock-solid position.

TIP
Expect it to feel like you're creeping uphill and really pushing downhill

How many times this month

5x

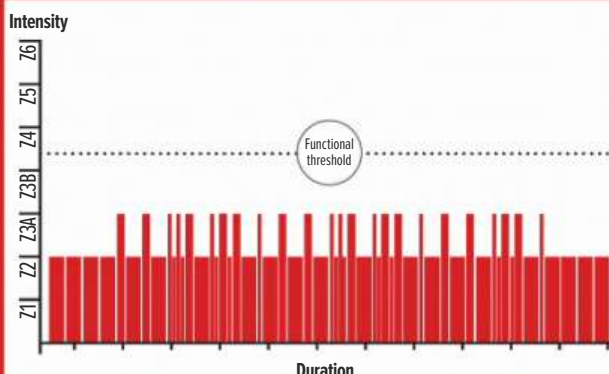
Duration (hr)

2

Intensity

75%

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	1-2	Sip every 10min
Energy gels	1	Halfway
Energy bars	0	
Recovery drink	1	ASAP



EXTRA
SESSION

SHORT SURGES

These shorter, punchier rides should keep your top-end ticking over



Even, continuous Zone 2 is the name of the game again here, but spaced out in the ride you can add in five 15-second surges. Stand to attack the first few seconds of each surge, then sit and power along until your time's up.

These aren't all-out sprints, just solid attacking bursts, so you should always feel as if you hold a little back once you've changed pace, and it should feel as if you stop before you need to each time.

Don't overdo it!

Keep the cadence up in the surges, perhaps shifting up a gear and dropping your cadence for the 15 seconds before each to give you a bit of bite to launch your attack from.

Keep an eye on the time rather than sprinting to targets. Vary the terrain but don't settle at too hard an effort if you finish a surge on a climb. It's all too easy to beast yourself!

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	1-2	Sip every 10min
Energy gels	0	
Energy bars	0	
Recovery drink	0	

How many times this month

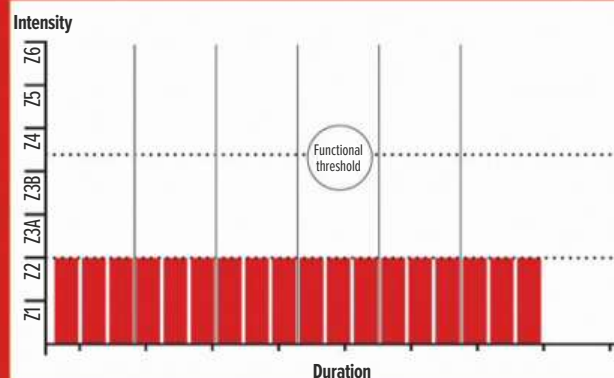
Up to 12x

Duration (hr)

1.5

Intensity

65%



What is?

Intensity

Intensity is a hard concept to pin down. Is a 90-minute Z2 ride with two 20-minute Z3b blocks easier or harder than an hour of easy riding that contains six all-out 30-second sprints? In this plan, intensity is a guide to how hard the hardest efforts will be — the higher the percentage the more respect the session needs and the more likely it'll be you'll need to follow it with an easy or rest day.



STEADY STATE RIDES

A foundational session, this ride is a great opportunity to work on skills and fitness simultaneously



Set out in Zone 2 at 90-100rpm, and stay there until your time is done. If there are other riders about, these rides can end up training your ego to ignore how other riders pace things, because it's likely that asthmatic ants and shopping-laden grannies will be able to overtake you uphill.

At first, it's best to do these rides on only gently rolling routes so that you get used to the feeling of creeping up hills and driving down them and the constant series of gear changes, but once you get used to that, consider moving to a slightly more technical loop that you know well so that you can practise your cornering at speed.

Try to keep all of these rides the same length each week, and don't progress by more than 15 minutes from one week to the next.

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	1-2	Sip every 10min
Energy gels	0	
Energy bars	0	
Recovery drink	0	

How many times this month

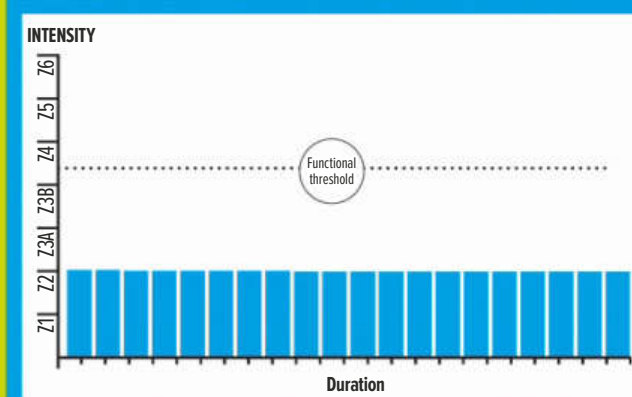
4x

Duration (hr)

2

Intensity

65%



LONG RIDES

This month we'll hold Zone 2 but set a pattern to build on in the months ahead



After 10-15 minutes at 90-95rpm to wake up your legs, increase your gearing until you're rolling along at 70-80rpm in Zone 2. Stay there for 20 minutes, then shift back to 90-95rpm.

Stay around that cadence, still holding Zone 2, until the final 30 minutes of your ride. At that point, shift back to 70-80rpm for a further 20 minutes before finishing the ride with 10 minutes of easy spinning.

The combination of heavier gears and accumulated fatigue will mean that the second 20-minute block will probably feel rather harder than the first, so it's a good idea to keep yourself motivated (and honest!) by doing both blocks on the same loop.

You also want to maximize the time you spend working steadily in the top half of Zone 2, so avoid long hills and long or steep descents. Flatter, duller roads will probably lead to better overall fitness. And, if you're training with others, agree before you head out that you're all going to pace the terrain the same way.

Ability-matched group

For this session, it will help to find a group of reasonably well-matched riders, as on a long ride, even just small variation in fitness can result in problems. Where appropriate work together and make sure that the stronger riders take the brunt of the work on the front, giving the weaker riders more time sheltering from the wind. This will help to iron out differences in ability.

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	3-4	Sip every 10min
Energy gels	0	
Energy bars	2-3	Every hour
Recovery drink	1	ASAP

How many times this month

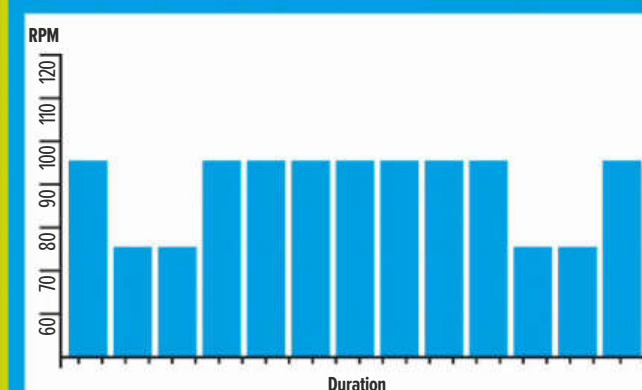
5x

Duration (hr)

3-4

Intensity

65%



(NOT VERY) HARD HILLS

This is another ride where we're setting an approach we'll return to several times over the next few months



This is the only ride this month that really breaks down into the classic 'warm-up, main set, cool down' structure. The first and last 15-30 minutes of the ride should be consistent, controlled Zone 2 riding at

90-95rpm. In the middle 60-90 minutes, however, the aim is to push up into Zone 3a on every single little rise (hills, humpback bridges... the lot) without letting your flat and downhill pace drop below the top half of Zone 2.

It's best to pick a route that's not too lumpy or technical for this because you want to be able to stay in the saddle, shift gears smoothly and build up a bit of momentum by driving over and down the far side of all the climbs.

TIP

It's OK if some climbs take 5-10 minutes, but most should take 10-60 seconds

Stick together

This is also a ride you can adapt to the flat or the turbo, simply by alternating Zone 2 and Zone 3a as you repeat this 10-minute sequence for the duration of your main set: 30sec/30sec, 60sec/60sec, 90sec/90sec, 2min/2min.

If you are riding in a group make sure everyone is clued up on how the ride is going to work. If someone is shooting off up the hills it can be hard to subdue the competitive spirit and stick to the effort allocated. Similarly if some people are cruising the descents and flats they will soon get left behind. Steady, even-paced rides are often hard to get right.

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	2	Sip every 10min
Energy gels	1-2	At 60 & 90min
Energy bars	0	
Recovery drink	1	ASAP

How many times this month

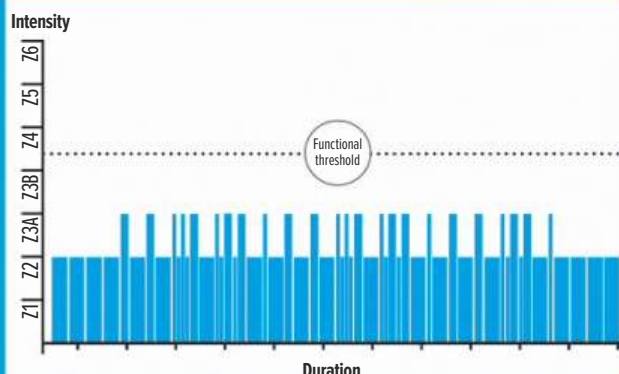
5x

Duration (hr)

2

Intensity

75%



EXTRA
SESSION

SHORT SURGES

Short surges will keep you sharp, and clustering them together will allow you to respond to rapid changes of pace



Ride in Zone 2 and at 90-95rpm apart from (initially) three five-minute blocks of surges spread out during the ride. During each of those blocks, alternate 10 seconds seated surging with 50 seconds back in Zone 2.

The terrain of this ride isn't terribly important, but it is generally easier if you can do the clusters themselves on a quiet, flattish stretch of road to avoid any potential safety issues that might occur.

Surging ahead

To progress the ride each week, just add in an extra five-minute cluster of surges up to a maximum of six clusters in total.

Spend the minute before each cluster holding Zone 2 at about 80rpm, then simply press the pedals around faster for each surge.

FUEL REQUIRED	HOW MUCH?	WHEN?
Drinks bottles	1-2	Sip every 10min
Energy gels	0	
Energy bars	0	
Recovery drink	1	ASAP

How many times this month

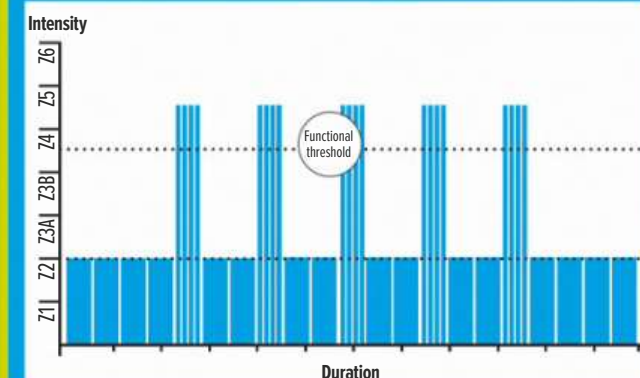
5x

Duration (hr)

2

Intensity

75%



What is?

Base training

A lot of people interpret base training to mean 'long, slow distance', 'big miles' or 'easy volume'. Really, though, base training is work that's focused on building your overall cycling fitness without worrying about the specific demands of your event or even (at first) your particular strengths and weaknesses as a rider.



CLIMBING MASTERCLASS

There's nothing more rewarding than taking on a big climb and beating it. *Andrew Hamilton* takes an in-depth look at endurance climbing and gives you all the information you need to seriously improve your performance

If you want to see a hill, stand and gaze at it; if you want to climb a hill, walk up it; if you want to feel a hill, ride up it!" — so said one of my earliest cycling mentors, many moons ago. He was right, of course. While cycling up a long hill is never easy, the buzz of crossing hilly terrain, conquering gravity and the thrill of a fast descent makes it one of the most rewarding experiences to be had in the saddle. In this article, I'm going to look at every aspect of endurance hill-climbing, and explain how you can apply this knowledge to improve your own hill-climbing performance.

What is endurance climbing?

There's no strict definition of endurance climbing, other than it involves sustained climbing over many minutes. Of course, this means that there's an element of subjectivity; if you're a recreational cyclist living in the lowlands of England, then some of the climbs over the South Downs could well qualify as endurance climbs. However, such a climb for an elite Pyrenean cyclist, might be considered no more than a short blast.

A more useful way of defining endurance climbing is to consider the energy demands. In an endurance climb lasting many or even tens of minutes, the primary source of energy is oxygen, supplied from the body's aerobic energy system. This means that,

rather than attacking furiously, the climb needs to be ridden at a consistent, measured pace in order to prevent the accumulation of fatigue, which would eventually cause you to stop — and feel very sick.

Of course, the fitter you are, the faster you can climb a given hill, which means a hill classed as an endurance climb for a novice rider might be a sprint to an elite rider. For example: a 500ft climb with an average gradient of nine per cent might be completed at around 4.5mph by a novice rider, taking around 15 minutes, making it an endurance climb. For a pro rider sustaining much higher speeds, it could all be over in well under four minutes, which isn't long enough to be classed as 'endurance'. Once you hit the bigger climbs, though — for example, the Alps or even the high routes of the Pennines or Scottish Highlands — the climbs are endurance challenges for everyone, even the fittest.

Physical challenges of endurance climbing

Overcoming gravity. When you ride on flat terrain, most of your energy is expended overcoming air resistance. While headwinds can be hard work, unless you're trying to cycle headlong into the teeth of a 50mph gale, you can simply select a lower speed and drop down a cog or two yet still make reasonable progress. You can also lessen the impact of the wind — for example, by lowering your body and tucking your arms in for a more 'aero'



position. And if you're riding in a group, you can cheat the wind still further by all tucking in closely behind the rider in front (who will be doing the lion's share of the work) and — if good etiquette is followed — taking turns at the front to ensure everyone gets a rest.

However, when the road points upwards at the start of a long climb, things are very different because there's no escaping the force of gravity. What's particularly challenging for heavier riders is the penalty paid for transporting extra body mass up to the top of a climb. To illustrate this, let's take two cyclists of equal fitness levels: one is a svelte and wiry 65kg lightweight rider, whereas the second is a much more heavily built 85kg rider. How do their bodies respond when they begin a climb of 500m (1,650ft)? With a 20kg weight difference, the laws of physics dictate that over the climb our 85kg rider will expend an extra 100 kJoules of energy over the lighter rider, equating to needing to eat an extra 140kcal.

Because energy is derived from oxygen metabolism, we can calculate that our 85kg cyclist actually has to consume around an additional 5L of oxygen to get his extra 20kg of body mass up the hill. If it takes 15 minutes to climb the hill, that's an extra 330ml of oxygen needed each and every minute over and above that required by our lighter cyclist — a significant amount, and the difference between being able to sustain a given pace to the top, or getting into oxygen debt and ending up by the roadside gasping.

The graph (below right) illustrates how, when the gradient increases, the proportion of energy required to overcome gravity rises dramatically. You can see how, on the flat, a 75kg cyclist producing 300w of power expends the bulk (83 per cent) of that power overcoming air resistance. No energy is required to overcome gravity (aside from that implicated in rolling resistance). However, now look what happens at a very modest six per cent gradient; here, no less than 80 per cent of the cyclist's energy is expended overcoming gravity, with just 10 per cent used for overcoming air resistance. At a stroke, our cyclist's body weight goes from being irrelevant to hugely important in determining how he/she copes with the climb ahead.

Heat stress

Heat stress is another physical (and comfort) challenge of endurance climbing. This relates to the build-up of heat you'll experience while climbing, and the potential knock-on effects on performance. Looking at the graph, you can see that on the flat, working at 300w power output will propel you along at around 40kph (25mph). A power output of 300w is very hard work — even for a fit rider — but the wind cooling effect on the body at those kinds of speeds is considerable. Unless you're riding on a very hot day, overheating and dehydration is unlikely to be a problem, especially if you drink plenty of fluid.

But once you begin a long, sustained climb, things change dramatically. Your workload is likely to increase, which results in more heat production. But, at the same time, your speed will drop dramatically. On a modest eight per cent gradient, working (very hard) at 300w, you'll struggle to hold even 10mph. This lower speed dramatically reduces the wind cooling effect, so the body tries to compensate by increasing the rate of sweating. As this sweat

“To summit a 500m climb, an 85kg rider needs 3.5L more oxygen than a 65kg rider”

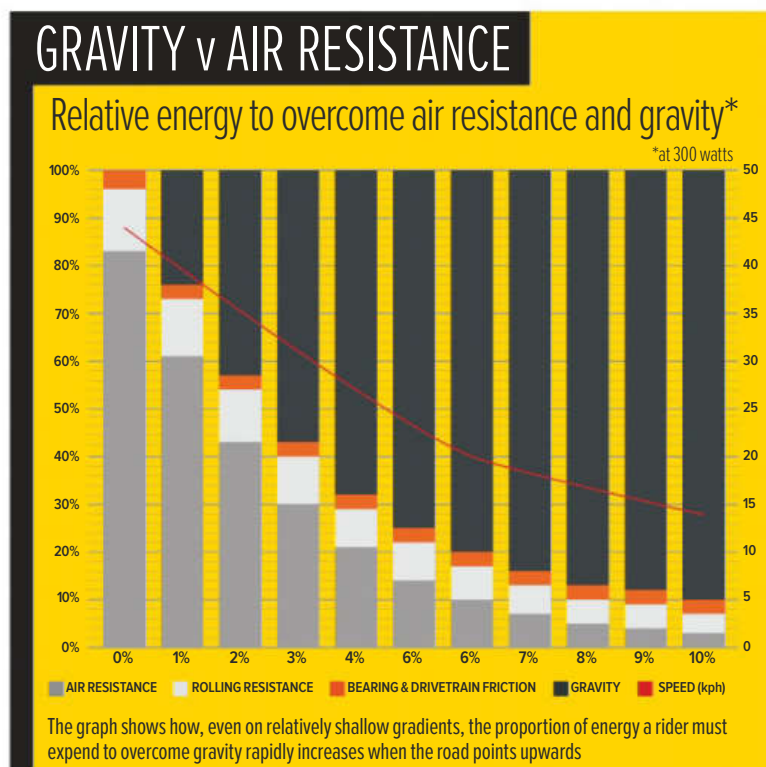
evaporates and leaves the skin, it takes large amounts of heat with it — leaving the skin significantly cooler.

The problem is that if you're wearing the right number of layers for cycling on the flat, you'll quickly find yourself sweating profusely. And as the sweat drips into your eyes, not only will you feel uncomfortable, the attendant rise in your body's core temperature will make it harder to keep up the work rate. Indeed, one recent study found that just 16.5 minutes of simulated climbing in heat stress conditions was enough to raise core temperature by nearly 1°C, resulting in 16 per cent less power, higher heart rates and much higher rates of perceived exertion. In other words, the heat generated by the hard work of climbing will make that effort feel even harder and more uncomfortable. But don't despair — because, with the right pacing strategy, you will be able to conquer those long climbs.

Pacing a climb

Probably the most asked question about endurance climbing is 'How should I pace the climb?' This depends on many factors, the most important of which is your fitness level and power-to-weight ratio (an extremely important predictor of climbing performance — see later). There are a number of ways to guide your climbing pace, including:

Heart rate: Because there's a fairly linear relationship between heart rate, oxygen consumption and work rate, you can use your heart rate as a pacing guide (with a heart rate monitor). As we stated earlier, the primary source of energy





SIMON WARREN'S

**FIVE CLIMBS
TO CONQUER**



Here are five key hills picked by our climbing guru to test your climbing progress

1 **Hardknott Pass, Cumbria**
The king of climbs. If you can get up here without walking, then you can ride pretty much anything.

LENGTH 1.6 MILES
AV. GRADIENT 12%
RATING 10



for endurance climbing is oxygen, supplied by the body's aerobic energy system. By monitoring your heart rate, you can ensure that you stay mainly in the aerobic zone without crossing into the anaerobic zone, where lactate starts to rapidly accumulate, as does fatigue, forcing you to slow down or even stop. For most people, this crossover point occurs at roughly 85 per cent of maximum heart rate (MHR — estimated by subtracting your age from 220). A 45-year-old rider, for example, has an MHR of around 175bpm and should therefore aim to stay at or below 85 per cent of 175bpm, i.e. around 150bpm. Because climbing is hard work and the gradient is rarely constant, you may occasionally stray above 85 per cent MHR and not suffer too much (especially if your fitness is high). However, once you stray over 90 per cent MHR, you will pay the price. Although it's not perfect, using a heart-rate monitor for pacing is cheap and a good way for cyclists to get a feel for how hard they should be working in order to make sustainable progress up a long climb.

Power output: Another way of pacing yourself is by monitoring your power output. Power meters are becoming steadily more affordable. So long as you know your maximum sustainable power output for a given time period and roughly how long your climb is going to take, you can use that figure to guide your pace and effort level. The advantage of power measurement is that, over time, you can monitor your progression as

“Staying in the aerobic zone means making sure you don't stray over 85% of MHR”

your maximum sustainable power rises — which is very motivational.

The term VAM is derived from the Italian 'Velocità Ascensionale Media', which translated is 'mean (average) ascent velocity' and leads to the English acronym Velocity Ascent Mean, i.e. VAM. A VAM figure equates to the average number of vertical metres climbed per hour, so, for example, a VAM of 1,150 for a climb means that your average vertical ascent rate was 1,150m per hour. VAM is useful because it also relates to a rider's power output per kilogram of body mass — probably the most important determinant of success in endurance climbing. As you get better at climbing, your VAM for a given climb will increase. It also allows you to make direct comparisons between different climbs; as a rule of thumb, every one per cent increase in average gradient decreases VAM by 50. So, for example, a VAM of 1,700 on a climb of eight per cent gradient is a performance equivalent to a VAM of 1,650 on nine per cent gradient. Data on VAM is readily available from cycling computers or by using smartphone GPS apps and uploading to sites such as Strava.

Riding position and pedalling cadence

Another question that many cyclists ask relates to riding position and pedalling speed, i.e. cadence. Should you get out of the saddle and grind away or (if the gearing allows) drop back on to a much lower gear, sit back and spin away?

The first thing to say is that during a long climb, you'll find it less fatiguing to remain seated. It's true that (because of additional muscle recruitment) you can generate more force on the pedals when standing out of the saddle. However, studies show that, for a given speed, the extra use of your



GEARING



To maintain the correct combination of cadence and ensure you stay in the aerobic zone, you'll need to ensure your lowest gearing is low enough to cope with the steepest gradients you're likely to encounter. What suits you will of course depend on your weight and fitness level. Lower gears are achieved with smaller chainrings at the front and larger rings at the rear.

Most road bikes come fitted with a compact chainset, with 50 and 34-tooth front chainrings. With this combination, a rear cassette with 26-tooth cog will get most fit riders up gradients that aren't too severe (less than 10 per cent). When climbs get longer or more severe, however, or if you're a heavier rider, a 28 or even

30-tooth cog at the rear makes for more comfortable climbing.

Cadence and gear selection go hand in hand. To maintain 15mph at a cadence of 88rpm you would be using 50x23t but the same speed at a slower cadence of 61rpm you would be using a larger gear — 50x16t.

Compact chainsets are used even by professional riders on demanding courses but they are still perceived by some as a sign of weakness. Team Movistar pro rider Alex Dowsett: "There isn't really one climb that I do fear, but we went over Plateau du Beille in Route Du Sud — that was unpleasant!

"They [the team] said I wouldn't need a compact — but I respectfully disagree after that race."



SIMON WARREN'S

**FIVE CLIMBS
TO CONQUER**



2 **Hartside, Cumbria**
A mini-mountain. Eight km of steady gradient that allows you to sit back and replicate that Alpine experience.

LENGTH 4.7 MILES
AV. GRADIENT 5%
RATING 8



SIMON WARREN'S

FIVE CLIMBS TO CONQUER



3 Dunkery Beacon, Somerset
Never-ending torment. A genuine 10/10 lung busting, leg-breaker of a road to the top of Exmoor.

LENGTH 1.9 MILES
AV. GRADIENT 10%
RATING 10



SIMON WARREN'S

FIVE CLIMBS TO CONQUER



4 Swains Lane, London
City-centre suffering. For a pre or post-work ride, this vicious little road is the city's best kept secret.

LENGTH 0.9 MILES
AV. GRADIENT 8%
RATING 6



CORE TRAINING FOR CLIMBING

Riding long hills is particularly demanding on the trunk muscles, which need to contract for prolonged periods to provide a stable platform for the efficient generation of power. By strengthening the core, you'll climb more efficiently and comfortably. Some regular core training is especially recommended for cyclists with a history of low back pain. Try these:

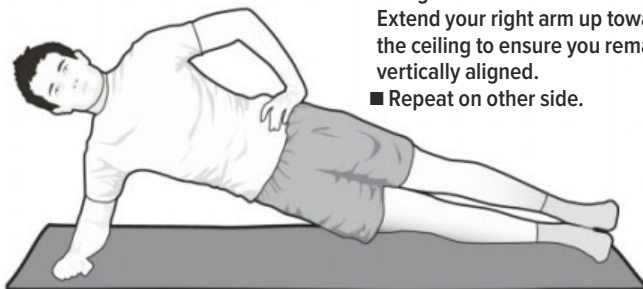
PLANK

- Get into a press-up position, bend your elbows and rest your weight on your forearms (not on your hands).
- Check your body forms a dead-straight line from shoulders to ankles.
- Engage your core muscles by sucking your belly button into your spine.
- Hold this position for 15 seconds, building up to a minute.



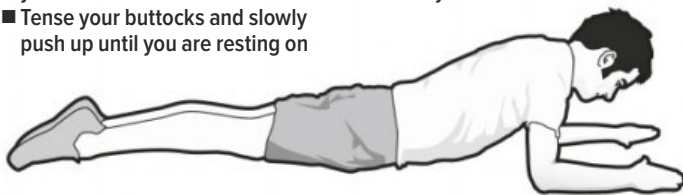
SIDE PLANK

- Lie on your left side and place your right foot directly on top of your left.
- Keeping aligned vertically, lift your hips off the floor and support your weight on the forearm and elbow of your left arm. Aim for a straight line from shoulder to foot. Extend your right arm up towards the ceiling to ensure you remain vertically aligned.
- Repeat on other side.



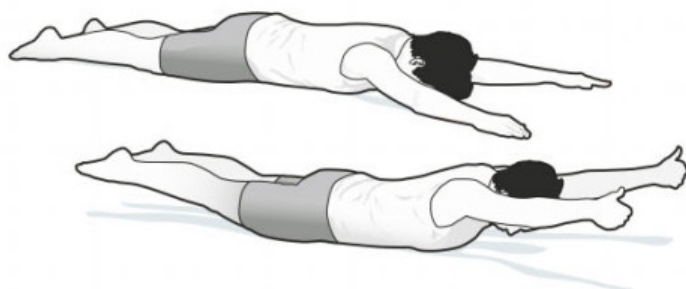
COBRA STRETCH (BORROWED FROM YOGA)

- Lie on your tummy and place your hands on the floor, just in front of your shoulders.
- Tense your buttocks and slowly push up until you are resting on your forearms and elbows.
- Hold the stretch, breathe deeply and try to relax.



SUPERMAN

- On all fours, lift your right arm and left leg off the floor while keeping your abdominals engaged and maintaining a flat back.
- If you're comfortable with this position, slowly lift your right hand up and forward and extend your left leg up and behind you.
- Pause in the 'up' position, return slowly to the starting position and repeat, using the opposite arm and leg.



“Most of your climbing should be done in the saddle, as it's less fatiguing”

upper body muscles will lead to higher heart rates and breathing rates. That said, there are some circumstances when you might want to get out of the saddle during a climb:

During a long climb, temporarily getting out of the saddle and standing while you pedal gives you the opportunity to stretch out and give the lower back muscles a short rest. If you want to maintain the same rhythm/cadence, however, you might need to move up a gear to compensate for the extra force you can generate in the standing position.

Most climbs don't have a uniform gradient; if you see a short, steeper section ahead, you may want to get out of the saddle and try to maintain your speed, rather than drop another gear. At the end of the climb when the summit is approaching, you can get out of the saddle and give it all you have because you have the option of recovering down the other side.

Even so, the bulk of your climbing during a long ascent should be done seated; if you keep feeling the need to get out of the saddle, you're probably using too high a gear. In terms of your seated riding position, many cyclists say they prefer to sit in a more upright position while climbing, with the hands on the bar tops. Although recent studies on cycling efficiency during hill-climbing suggest the angle of the torso doesn't have a significant impact on how much energy is used, some evidence suggests a more upright position leads to a slower rate of fatigue — probably because a more upright torso position helps recruit more muscle fibres from the powerful gluteal muscles of the buttocks. Regardless of your torso angle, it's important to remember that, when you're seated, only your legs (and gluteal muscles) should be working while your upper body should be relaxed. Holding tension elsewhere — e.g. in your shoulders or gripping the bars too tightly — wastes precious energy that is better used propelling you towards the summit.

High or low cadence?

In terms of your optimum pedalling cadence, it's observed that during a long climb, many cyclists tend to drop their rpm. Research suggests that this may be a good approach — numerous studies show that slower cadences (under 80rpm) are more energetically efficient than higher ones. Despite this, the greater forces needed to cycle uphill mean that, while a lower cadence may be more energetically efficient, it might result in a faster rate of fatigue. Thus, losing a little efficiency by using a higher cadence (which reduces the forces on muscle fibres) could be a price worth paying. What does this all mean in practice?

Well, during a long climb, try to remain seated and adjust your gearing so that you can continue to pedal rhythmically without inducing the sensation that your leg muscles are getting heavier and heavier or burning.



GO LIGHT OR GO AERO

When choosing a bike for endurance climbing, what matters most, its weight or how aero it is? While it's true that a lighter bike requires less energy to get it up a hill, the weight difference between most bikes is quite small. Other factors come into play.

For heavier, more powerful riders, a bike that's one or two kilos heavier may be faster — if it has a stiffer frame and wheels that transmit force more efficiently to the road. A very lightweight rider, however, might benefit from a really lightweight bike.

When you're not riding in a bunch or up a hill, a more aerodynamic bike and wheel design can benefit a light or heavy rider by reducing drag and energy requirements at higher speeds. And that's important because even the hilliest sportive will have long sections of minimal or downhill gradients. The best bike isn't necessarily the lightest.

If you're flush with cash, then of course you can have your cake and eat it with a very light, very aero bike/wheel combo.

Climbing in a group

Unlike on the flat, where headwinds are your main enemy, overcoming gravity is the big challenge during a climb. Because climbing speeds tend to be relatively low, even for fit riders, there's little drafting benefit to be had by riding very closely together and climbing in a group. What you can get, however, is moral support from your fellow riders, especially if the stronger riders are prepared to back off a bit to stay with the weaker riders. But it can work the other way too; a weaker rider might be able stay with the group by tucking in and benefiting from wind shielding on the flat, letting the stronger riders share the work at the front. But during a climb nobody is shielded from gravity, and it can be demoralising to see your fellow riders disappearing into the distance shortly after the start of a big ascent.

Getting the right mindset

Endurance climbing can be very physically demanding but your mental approach will play a big part in whether you end up dreading or relishing a long climb. Probably the most important thing to tell yourself is that, while you might not be the most natural climber, you can still climb. Yes, you might not be as fast uphill as fitter, lighter riders but you can and will reach that summit. And when you're climbing, you need to focus on yourself — your effort level, cadence and riding position — not what others are doing. Here are some other useful tips:

When approaching the climb, don't gaze up at the distant summit, as you'll get a distorted perspective of the steepness of the climb. During the climb, be aware of changing gradients ahead and the need to change gears but don't look too far into the distance where a view of the road snaking ever upwards can be dispiriting. Spend most of time focusing on the stretch of road immediately in front of you, the part

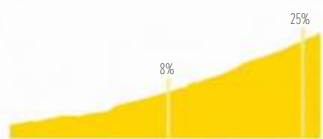
SIMON WARREN'S

FIVE CLIMBS TO CONQUER



5 **Yorks Hill, Kent**
The classic hill-climb. Home to the world's longest-running bike race, the perfect English climb, short and very steep.

LENGTH 0.4 MILES
AV. GRADIENT 14%
RATING 9



that you will be tackling next.

If you're in a group, don't worry about what others are doing on the climb. You do what you need to do, i.e. stay focused and climb at your own pace. If you're struggling, break up the climb into bite-sized chunks by, for example, focusing on pedalling to the next tree or the next hairpin. Once past your chosen point, choose another point and just focus on getting there; before you know, it you'll be at the summit.

Use positive imagery; imagine the thrill you're going to experience as you power over the summit. Think back to some of your best and happiest rides. Remember that, on these rides, you probably struggled at times too, but you came through them triumphant. Tell yourself that, while climbing might be hard, it's making you fitter and healthier.

If you get passed by a faster rider, don't let it shake your confidence and don't try and accelerate to stay with them. Someone might be climbing faster than you, but remind yourself that it has zero impact on



POWER-TO-WEIGHT RATIO (WATTS/KG)

	120w	150w	180w	210w	240w	270w	300w	330w	360w	390w
45kg	2.7	3.3	4.0	4.7	5.3	6.0	6.7	7.3	8.0	8.7
50kg	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8
55kg	2.2	2.7	3.3	3.8	4.4	4.9	5.4	6.0	6.5	7.1
60kg	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5
65kg	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.0	5.5	6.0
70kg	1.7	2.1	2.6	3.0	3.4	3.8	4.3	4.7	5.1	5.6
75kg	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2
80kg	1.5	1.9	2.2	2.6	3.0	3.4	3.8	4.1	4.5	4.9
85kg	1.4	1.8	2.1	2.5	2.8	3.2	3.5	3.9	4.2	4.6
90kg	1.3	1.7	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.3
95kg	1.2	1.6	1.9	2.2	2.5	2.8	3.2	3.5	3.8	4.1

Watts per kilogram of rider weight is a crucial figure in performance cycling. The higher the number, the faster the rider when the road goes uphill

your ability to reach the summit.

For a particularly challenging climb, you might want to 'pre-drive' the road in a car. Just knowing what's ahead can help your brain manage expectations, which can help reduce the perceived level of exertion. For example, if you round a bend and are confronted with a very steep section, you can suddenly feel you're working 10 times harder simply because your brain is having to adjust to the new expectations. But if you know it's coming, you won't suddenly hit that mental wall.

If driving a route isn't practical, at least study route profiles, read course descriptions provided by organisers or other riders so you are prepared. Google StreetView is an invaluable tool for looking at routes; drop in the little yellow man and take a walk up the climb. Pro riders spend a huge amount of time studying the parcours of their races.

When power just isn't enough

When the road heads upwards, moving your body mass and that of the bike uphill against the force of gravity requires additional energy. When climbing, therefore, what really matters is the amount of power you can produce in relation to your bodyweight — power-to-weight ratio — usually expressed in watts per kilogram. Over a 20-minute period, a typical fit club rider is able to sustain a power output of around three watts per kilo of bodyweight. For elite pro riders, this can be as high as 6.5w per kilo — a figure that a club rider might struggle to sustain for 20 seconds.

As a consequence, endurance climbing is particularly challenging for a heavier rider, who will have more mass to lug uphill — even if that rider can sustain relatively high power outputs. The table (below left) illustrates this. A 90kg rider might be able to sustain an impressive 360w of power output for 20 minutes. But with a power-to-weight ratio of 4.0w/kg, they would be outperformed during a long climb by a 65kg rider with a sustainable power output of 300w (power-to-weight ratio of 4.6w/kg).

A good example of this is Magnus Backstedt, who at 94kg was one of the heaviest ever riders to have taken on the Tour de France. An accomplished rider on the flat, Backstedt came second on the seventh stage of the 2005 Tour. However, in 2008, he was eliminated for being too slow on one of the mountain stages. Backstedt's maximum sustainable power output compared very favourably with that of his contemporaries, but his high body mass penalised his power-to-weight ratio. As Backstedt remarked afterwards, "With 100km to go, I was going OK. I could see the numbers on the power meter and they were normal for the kind of effort you need to get to the finish on your own inside the time limit."

"I think I would have made it, but there was a real steep hill just before the finish and my breathing and legs went. It was like I shut down from the waist down and I ended up four minutes outside the cut-off."

If you are a heavier rider, you need to accept that even if you have high levels of fitness, endurance climbing will be more challenging than it is for your featherweight contemporaries. Remember: your extra weight means you can descend faster and you can use any power advantage to make up time on the flatter sections.

Performance-boosting nitrates

More and more cyclists are taking nitrates to boost performance, but does it really work? *Robert Hicks* finds out

Nitrates has been a buzzword for several years, since the news broke that eating beetroot can dramatically improve performance. Unlike a lot of supplements such as beta-alanine, sodium bicarbonate and creatine which help only those at the elite end of the cycling spectrum, nitrates have been shown to improve performance further down the cycling ranks, good news for everyone.

What's more, apart from beetroot turning your pee a lighter shade of red,

there are very few side-effects from consuming nitrates — unlike many other supplements that can lead to gastric distress and weight gain.

In the International Olympic Committee report, the performance benefits of nitrates are highlighted, but there is an air of reluctance in its statement. "Short-term supplementation

with nitrate may reduce the amount of oxygen required to do a set amount of work," says the report.

"This increased efficiency might improve performance in events lasting a few minutes or longer. More research is needed to confirm the efficacy of beetroot/nitrate supplementation on performance and to determine the



range of events in which it might be useful. Although increasing nitrate intake through vegetable consumption is not harmful, the safety of using nitrate powders is yet to be studied."

It's hardly a glowing report, yet we are continuing to see sports nutrition companies producing their own nitrate supplements — and their key market is cycling. Science in Sport (SiS), for example, has manufactured a gel, SiS Go Nitrates, which it claims will guarantee an improvement in cycling performance. According to the SiS website, "Top athletes know that nitrates increase nitric oxide (NO) in your body which will help deliver oxygen and nutrients more efficiently."

In an interview with our sister magazine, *Cycling Weekly*, founder of SiS Tim Lawson spoke highly of nitrates and their beneficial effect on performance. "Over the years, there have been lots of studies that have made an assumption that a linear relationship between the amount of work you can do and the amount of oxygen you can consume, and that's reflected in heart rate — whereas nitrate studies have shown an improvement in efficiency. In effect, you can get more power for less oxygen or less heart rate," he said.

"It's exciting. We're not improving our VO2 max; we're improving our utilisation. There are not many things that will improve your performance instantly. You don't have to do anything. Take two gels for three days and chances are you will go faster. This works every time," he continued.

SiS isn't alone in the quest to find the ultimate nitrate super source. Zipvit has now started to produce a nitrate performance gel along with its Beetroot Boost capsules. And nutrition company Beet It recently launched a Beet It Sport stamina shot to sit alongside its organic beetroot juice. There are many other companies too that are joining suit. So what do they know that the IOC report doesn't appear to?

The research and role of nitrates

Over the last five to 10 years, a body of research has emerged looking into the effects nitrates have on performance and the role they play in the body.

The majority of early studies showed that six days of beetroot juice consumption — at nearly half a litre a day — reduced the amount of oxygen needed by exercising muscles, increasing the muscles' efficiency and tolerance to high-intensity exercise and extending endurance. Recent research has gone on to show that when beetroot

was consumed, improvements were seen in average power output, cycling efficiency and time to exhaustion.

In 2012, a study conducted by Dutch researchers took 12 trained male cyclists and put them through two trials, which were separated by 14 days. Each trial consisted of 30 minutes of cycling at 45 per cent of power and 65 per cent of power, followed by a 10km time trial.

In the six days leading up to each trial, cyclists consumed either 140ml of concentrated beetroot juice or the same amount of a placebo. The results, published in the *International Journal of Sport Nutrition and Exercise Metabolism*, showed that the oxygen required to sustain sub-max exercise was lower when the active beetroot juice was consumed. There was a significant improvement in average power output during the time trials, rising from 288 watts in the placebo trial to 294 in the active beetroot trial — a reduction of 12 seconds.

This may not seem like much, but



The effects

The principal effect of nitrate supplementation is to lower the oxygen cost of exercise, making muscles more efficient.



The dangers

When consumed, nitrate is converted into nitrite, with the latter also safely used as a preservative in the food industry. However, high levels of nitrite can be toxic. Inadequate storage and reheating of nitrate rich foods, such as spinach, can lead to conversion of the nitrate to elevated, toxic levels of nitrite.



The foods

Spinach, rocket, lettuce and beetroot all contain nitrates. These are healthy foods to add to your diet and should be consumed on a regular basis.

HOW NITRATES WORK

When nitrates are ingested, they are immediately converted into nitrites. When nitrites encounter body tissue with low oxygen levels such as exercising muscles, they are converted to nitric oxide. Nitric oxide has a number of positive physiological changes in the body. It will cause blood vessels to dilate, therefore directing more blood and of course oxygen, to areas that need it most. Nitric oxide also has positive effects on muscle cells, improving their ability to contract and produce more energy.

over a 10-mile time trial it works out at a 19-second improvement and more than a minute for a 25-mile time trial. All through no extra training and just consuming beetroot juice!

But before heading out and panic buying a ton of beetroots, it's worth knowing that the dark red veg isn't the only way to get your nitrate fix. They can be found in a variety of other fruit and vegetables — spinach, lettuce and strawberries, to name a few — and will improve performance in the same way wherever you source them from.

However, nitrate content can vary massively, even between foods of the same type. Factors such as soil and light conditions and general quality of the produce will all affect nitrate levels.

According to research, the biggest improvements in performance are seen when five to eight mmol of nitrate is consumed two to three hours before exercise. However, this can vary between individuals and factors such as body size can influence the effectiveness.

So how does one obtain enough nitrates from foods to see an improvement in performance? This is the question that is so hard to answer, and the blunt truth is that it's almost impossible getting the exact measurement — unless you are prepared to eat a fridge full of spinach or a gallon of beetroot juice. If you rode for Team Sky you would have to get used to regular beetroot and greens smoothies.

This is why supplements are so useful, delivering a measured dose in a small, manageable volume. Of course, it's not the most tasty of options; in fact a lot of nitrate supplements are quite an acquired taste. But it's certainly the easiest and most practical.

NITRATE LOADED BEETROOT & BUTTERNUT SQUASH SOUP

This hot pink soup made with beetroot and butternut squash is perfect now autumn is here, especially if you dish it up in mugs — great for warming the hands after a cold ride. This can be made in advance and reheated after your ride to save time, eaten as a lunchtime snack or as a healthy starter before a main meal



Serves
4
Cooking time
30MIN
Preparation time
5MIN

YOU WILL NEED

- 2 tsp oil
- 1 small onion, diced
- 2 sticks of celery, diced
- 1 clove garlic, finely diced
- ½ tsp nutmeg
- ½ tsp cinnamon
- 800g pumpkin or butternut squash, peeled and chopped small
- 800ml vegetable stock
- 4 traditional beetroot (cooked beetroot dipped in vinegar), roughly chopped

METHOD

1 In a saucepan heat the oil over a low-medium heat and cook the onion, celery and garlic with the lid on, stirring occasionally, for 8-10 minutes until soft.
2 Sprinkle the nutmeg and cinnamon then add the butternut squash and stock.

Bring to the boil and simmer for 15 minutes, add the beetroot and cook for another five minutes until everything is soft.
3 Allow the soup to cool a little then blend until smooth, add some extra stock if it's too thick. Season and reheat to serve.

* WHY IT WORKS

138
kcalories

36g
carbohydrates

4g
protein

3g
Fat

YOU WILL NEED

- 2 tbsp pumpkin seeds
- 1 lime, juice only
- 1 tangerine, juice only
- 1 tbsp olive oil
- ½ shallot, finely sliced
- 1 tsp pink peppercorns, roughly crushed
- 1 slice rye bread, sliced into cubes
- 6 pomegranate & cumin infused beetroots, cut into wedges
- 1 yellow pepper, sliced
- 1 carrot, grated
- 100g mange tout, sliced
- 10 radishes, quartered
- Large handful of rocket
- Small bunch of parsley
- 4 slices smoked salmon

METHOD

1 In a small frying pan toast the pumpkin seeds until they start to pop, tip into a small bowl and add the lime and tangerine juice, oil, peppercorns, shallots and a pinch of salt. In the same pan dry-fry the rye bread until toasted on all sides.

2 Lay pieces of smoked salmon around the edge of each plate. Toss the rocket in a little dressing and lay inside the salmon circle. Put the rest of the ingredients on top of the rocket, drizzle over the pumpkin seed dressing and finish with rye croutons.

3 Cook's tips: Pomegranate & cumin infused beetroot can be purchased from Waitrose, or choose a different flavour from the infused beetroot ready-to-eat range, which is available in major retailers.

NITRATE LOADED LOVE BEETROOT RAINBOW SALAD

Different colours in fruit and veg signify different nutrients, so 'eat the rainbow' with this fresh, colourful salad for a healthy boost to your daily nutrient intake, as well as plenty of high-nitrate beetroot and rocket. This salad is delicious served with smoked salmon, as shown below



* WHY IT WORKS

538
kcalories

57g
carbohydrates

35g
protein

22g
Fat

Serves
2

Preparation time
15MIN

What's in your Caffeine gel?



Performance
improvement

Up to
4%



When
to take

30
mins
before exercise



Optimal
dosage

3mg
per kg
of body weight



Scientific evidence gives a stimulus to the view that caffeine helps boost performance

The relationship between caffeine and aerobic endurance is well-known. Until 2003, caffeine was actually on the World Anti-Doping Agency prohibited list, but it was taken off it due to inconclusive evidence. Most professional cyclists have used some form of caffeine supplement — mainly gels — either before or during competition to boost performance.

The research

For years, research has highlighted the positive effects of caffeine on aerobic endurance. In 2008, a paper entitled 'The effects of caffeine ingestion on time trial cycling performance' was published in the *Journal of Sports Medicine and Physical Fitness*. Researchers observed cyclists who had to exercise on a stationary bike for 15 minutes at 80 per cent heart rate, followed by a 15-minute VO2 peak performance ride.

An hour before each trial, each rider ingested caffeine or a placebo. When compared with the placebo, caffeine doses of 2mg and 3mg per kilogram of body weight (mg/kg) increased performance by four and three per cent respectively. These improvements are through no extra training, just caffeine. To put it in context, EPO, an illegal and dangerous form of performance enhancement, has been found to increase performance by up to 10 per cent.

Studies have shown that caffeine consumption can have a positive effect on the perception of leg muscle pain during high intensity cycling too.

In 2008 scientists subjected 16 women to consume doses of 5mg/kg of body weight one hour prior to a 30-mile ride on a static bike at 80 per cent of peak aerobic capacity. A control group was given a placebo. The results showed that those who ingested caffeine experienced a large reduction in leg pain intensity compared with the placebo group.

In 2013, a paper titled 'The metabolic and performance effects of caffeine compared to coffee during endurance exercise' concluded: "There is consistent evidence supporting the ergogenic effects of caffeine for endurance based exercise." Subjects had to ride at approximately 55 per cent of their VO2 max followed by a 45-minute energy based time trial. One hour prior to exercise, they consumed either caffeine (5mg/kg of body weight), instant coffee (5mg/kg of body weight),

instant decaffeinated coffee or a placebo. Performance times were significantly faster for both caffeine and coffee when compared to placebo and decaf. Average power for caffeine and coffee during the TT was also significantly greater.

How much and when?

A range of different factors affect people's tolerances to caffeine. Some are more receptive than others and may only need a small amount to see physiological changes. Those who perhaps are bigger in weight or consume caffeine more often may need a larger 'kick' to see the same changes.

According to past studies, it was accepted that caffeine doses of 1-6 mg/kg of body weight will improve performance, reduce the perception of effort and prolong time to exhaustion. Recently, research has been more specific and has stated that doses of 3mg/kg of body weight will cause physiological changes that will improve performance.

How quickly caffeine can be utilised by the body is a contentious issue. In 2013 a study was conducted to determine the best time to administer caffeine in chewing gum to enhance performance.

Eight cyclists performed lab sessions on five separate occasions. During the first visit, the subjects performed a graded exercise test to determine their maximal aerobic capacity (VO2 max). During the following four visits, three pieces of chewing gum were administered at three points: two hours before; one hour before; and five minutes before cycling.

In three of the four visits, chewing gum containing 300mg of caffeine was administered at one of the time points. At the other time points, gum with no caffeine was given. Each subject then had to partake at 75 per cent of their VO2 max for 15 minutes after which they had performed a time trial.

The results showed that those who took caffeinated gum two hours before saw no significant improvement than when no caffeine was taken. However, when the gum was taken five minutes before, performance improved.

In 2014 researchers analysed the effect of caffeine ingestion on the performance variables associated with fatigue in 20km time trials. Thirteen male cyclists were put into two groups and received caffeine capsules or a placebo 60 minutes before the trial. Distance, speed, power, rpm, rating of perceived exertion and heart

THE DANGERS



There are some dangers and side effects of consuming too much caffeine, which you must be aware of; get it wrong, and your cycling could seriously suffer.

Too much caffeine can cause stomach upsets, heartburn and abdominal pain. Research has also shown it can cause inflammation of the stomach lining, which may result in gastric distress.

Excessive consumption of caffeine can also lead to anxiety and sleeplessness, which may have an effect on your recovery. It is during periods of rest and sleep where your body is able to recharge most effectively. If your sleep is disrupted, your recovery will be too.

One of the biggest side-effects from consuming too much caffeine is the jitters, which may not seem like much, but can put your safety at risk when riding a bike. It's so important to remain calm and controlled on the bike. Endless fidgeting can cause accidents as the bike becomes twitchy, making it difficult to control.

Any product containing more than 150mg of caffeine per litre (mg/l) must be labelled with the term 'high caffeine content'. General health guidelines suggest consuming no more than 400mg per day; most gels will give a recommended maximum dosage not to be exceeded.

rate were measured. The results showed there were no significant differences between both trials, suggesting that caffeine intake 60 minutes prior has no effect on performance or physiological responses. This backs up the theory that for performance improvement, caffeine should be taken almost immediately before exercise.

The verdict

Caffeine will heighten your performance and gel is the most effective and convenient way to ingest it. Importantly, each gel provides a measured dose of caffeine in a manageable quantity.

Robert Hicks is the author of *The Pain-Free Cyclist*, an in-depth cycling fitness book aimed at the elite end of amateur cycling. Foreword by Sir Bradley Wiggins.

SiS Go + Caffeine £1.79

SiS is at the forefront of cycling nutrition and produces cutting edge products for a number of professional cycling teams. At the beginning of 2015, it was announced SiS would become the nutrition sponsor for Team Wiggins.

This gel is very easy on the stomach, and doesn't need to be taken with water. It's light in consistency, which makes it very easy to consume on longer rides and the wide opening means that you can easily empty it into your mouth in one go. Each 60ml gel contains 75mg of caffeine and 21.5g of carbohydrates

and is available in berry or cola flavours. If you are a real caffeine fiend then you might want to try the double espresso flavour with 150mg of caffeine and a strong coffee flavour.

This gel is a good choice if:
you are undertaking an ultra-endurance event.
www.scienceinsport.com

9

PowerGel HydroMax £1.59

PowerBar, the nutritional supplier to the Tour de France, has produced a caffeine gel that also helps with hydration. It has

added sodium to help with fluid storage in the body, perfect if you happen to be riding in hot temperatures. Many gels can be thick in texture and increase your thirst response but this one feels quite liquidy. PowerGel uses glucose and fructose, increasing the amount of carbohydrate your body is able to absorb. Adding large amounts of caffeine to a gel can

make the flavour less palatable, but the cherry flavour is fruity, refreshing and on the sweet side but only contains 50mg of caffeine. The cola is less sweet and has a bigger caffeine kick with 101mg.

This gel is a good choice if:
you are riding in the extreme heat.
www.powerbar.com

8

OTE Caffeine Gel £1.80

If you're picky when it comes to taste, then this gel is for you. OTE prides itself on producing great tasting products, and quite rightly so. If you don't like the taste of a product, you are never going

to use it. OTE's gel has been used in racing by Team LottoNL-Jumbo, with whom OTE are official partners.

In a lot of cases the taste can compromise the nutritional content of a product. But OTE has got it spot on; it has produced a refreshing tasting gel that is packed full of carbohydrates and caffeine. Although it doesn't contain as

much caffeine as the other gels on this test — each gel provides just 50mg of caffeine — this makes it easier and safer to spread out caffeine consumption throughout a long ride or event.

This gel is a good choice if:
you want a great tasting gel.
www.otesports.co.uk

7



Clif Bar Shot Gel Double Espresso £1.26

As with any shot, you're not supposed to sip it; the idea is to get it down in one. It's a nice idea especially as research has

shown that caffeine has a very quick effect on the body and physiological function, helping to significantly bolster performance.

This gel, however, is difficult to consume in one go; its consistency is extremely thick, similar to that of syrup and you will need to take water with it. The flavour is good though, especially if you like an espresso to kick-start

your rides. It's a great substitute for a mid-ride cafe stop and it contains 100mg of caffeine. If you aren't a coffee fan then the citrus flavoured gel might suit you better and contains 25mg of caffeine.

This gel is a good choice if:
you love a good strong coffee.
www.clifbar.co.uk

7



Etixx Performance Triple Action Gel + caffeine £1.49

This triple action gel contains 30g of carbohydrates and 37.5mg of caffeine. All the caffeine is from natural sources such as green tea and guarana. There are three carbohydrate sources, which give a more sustained release over the course of a ride. Etixx is the nutritional supplier to Mark Cavendish's team. Thanks to its lighter amount of caffeine and the staggered intake,

you are less likely to accidentally consume too much. Red fruit flavouring leads to an extremely strong tasting gel, which you may find you need to wash down with water.

This gel is a good choice if:
you are looking for a subtle caffeine lift.
www.etixxsports.com

6



NATURAL ALTERNATIVE

Espresso can help you roast the opposition



An espresso is a great alternative to a caffeine gel. One single shot (1 fluid ounce, 30g) of espresso contains 64mg of caffeine and virtually no calories or fat. A couple of these pre-ride would have an impact on performance. It's a great pick-me-up should you need it — a reason why coffee stops are so popular among cyclists. However, you must remember that it provides no carbohydrates, so it won't fuel your long rides, unlike caffeine gels that contain a fine balance of caffeine and carbohydrates, as well as vitamins and minerals. During your ride, caffeinated gels are the better option by far. But for a coffee pit stop, go for an espresso.

30g
single
espresso

0g
fat

0
Carbs

64 mg
caffeine



What it takes to fuel a pro rider

We talk to Tinkoff-Saxo's team chef, Hannah Grant

The emphasis that is now placed on nutrition within cycling is increasing; this has become particularly apparent with the majority of professional teams hiring their own chefs to travel alongside the team to fuel the riders through gruelling races and training camps.

Paul Knott caught up with Tinkoff-Saxo's team chef Hannah Grant at the Tour de France to see what life was like on the road and how she ended up working for a professional cycling team.

Despite Hannah's current career demanding that she feed a horde of hungry team members three meals a day, her cooking origins in Denmark were very different.

"I trained to become a chef at the culinary institute, which I graduated from in 2007 after a four-year course. I then went on to work for a kite-boarding exhibition for a year, which meant sailing around the South Pacific and French Polynesia cooking for professional kite-boarders. They are very different to cyclists as they aren't as focused on the super-correct nutrition content; however the importance of nutrition within cycling is massive. In basic terms the sport can be reduced down to how many watts a cyclist can pedal with the lowest possible body weight. So it is essential for a cyclist to keep their weight down without starving the body and missing out on essential nutrients."

Grant reinforces this belief in her book, *The Grand Tour Cookbook*.

"Almost half of the cyclists on the team find it difficult to lose the weight they need to, despite extreme physical activity and low calorie intake. We found that for these cyclists, radically cutting down on carbohydrate intake and increasing



Grant relishes her 25-day Grand Tour cooking shifts

protein and healthy fat intake works best. Performance focused cooking takes care of this by providing riders with the option of avoiding carbohydrate-rich foods and offering alternatives in the form of meat, vegetables and healthy fats every meal."

It was Grant's experience while working at world-renowned two Michelin star restaurant Noma in Copenhagen that turned out to be the catalyst for her shift to a career in cycling.

"I got into cycling completely by chance. I was planning on going to university to study food science and I needed a job on the side where I could work a lot and be off a lot. So I spoke to my old sous chef from Noma, who was doing triathlons at the time and I asked him if he knew anyone and he said this cycling team needed a chef."

Vital ingredients

Grant's appointment at Tinkoff shows the importance that nutrition and food now plays within a cyclist's performance.

"When you burn off 4,000-6,000 calories in the course of a day, it is easy to indulge oneself by eating whatever you



Stars like Alberto Contador are fuelled by Grant's cooking

feel like. But professional cyclists must be professionals 24 hours a day. A body's performance capacity in the long run depends on whether its building blocks are made from McDonald's and Mars bars or vegetables, meat and superfoods.

"With the right diet, you can optimise recovery, reduce inflammation and increase energy. That is why we pay a great deal of attention to fruits and vegetables. They contain all the minerals and vitamins needed to keep a professional cyclist going."

Tinkoff-Saxo themselves have expanded their commitment to performance cooking even further since by hiring Rune Sørensen, Grant's apprentice. On top of this the team has funded the purchase of a food truck, eliminating the need to cook in different restaurants each night.

Sørensen started at the beginning of the 2014 season at a pre-season training camp and the task of maintaining a strong relationship is vital. Grant explained the pressures of working in a close environment for a long time.

"Your instinct is that you want to work



A professional cyclist burns
**4,000
to 6,000**
calories
per day

and show people that you are doing your job, but if you don't rest then you are going to die. So we're very focused on making sure we rest and work out and also take time away from each other because otherwise we would kill each other."

The constant travelling is a major part of a team chef's duties, but it's a challenge Grant seems to relish as she embarks on her 14th Grand Tour with the team.

"Once you get used to it, it's really nice because we do 25 days in row during the Grand Tours, so we get into a routine. So whether it's the Giro, the Tour or the Vuelta a España the system is the same. Obviously there is way more attention during the Tour, but you get used to the whole thing of living out of a suitcase and actually I relax more when I'm at work because I know I have a routine."

Being just one of a few women within the Tinkoff-Saxo outfit, Grant often — and inadvertently — assumes the role of the mother figure in the team. A prime example of this was Danish rider Michael Valgren joking around in the food truck prior to a morning ride, looking to escape

from the cycling bubble.

"The riders do come in [the truck] for a coffee or just a chat as it is a different atmosphere. There are no bikes in here so we can talk about different things and we have a laugh. You can tell when they are nervous on certain days as they are a bit quieter and you can just feel the atmosphere on some stages.

"Especially the younger guys, who like to have company, as they are not so used to being away. Like Valgren who did the Vuelta, but this is his first Tour de France and obviously it is crazy pressure, so for sure we'll see him for a chat or two. Especially as he is Danish so it's nice to speak your own language and it's the closest thing you can get to home."

One of the major benefits of having a personal chef in your team is being able to have nutritious, varied and tasty food every day, which can be adapted to each riders' taste and requirements. As Grant and Sørensen prepare the fresh chickens for tonight's dinner (marinated three different ways, purely for taste), they discuss the adaptability of their meal plans.

"I haven't decided on the salads for tonight, but we will probably have some nice coleslaw or some cold soups as it is really warm today. Usually we do a cooked vegetable salad and a raw vegetable salad. So they can mix it depending on their taste. Some guys like the raw stuff and some guys like the cooked stuff. So it depends on each rider and how they digest things."

High performance fuel

The importance that is placed on adaptable diets is further highlighted in Hannah's book.

"To plan your diet and get the very best out of it, you need to analyse and understand your own body and then, on that basis, optimise and individualise your diet."

This is also followed in day-to-day practice by Grant and Sørensen.

"We don't plan the menu in detail, as we aren't always sure whether we can get the products. Also the race situation itself can change such as the weather or the vibe within the team. As chefs it's nice to be creative and let the inspiration spread. We also prefer to cook organic foods if we can get them and luckily that's really easy to do in France compared to other countries."

The importance that is placed on organic food is further highlighted in Grant's book.

"We choose organic produce, whenever possible. We believe it is better both for us and for nature. We seek out products with no artificial sweeteners, no growth stimulants and, above all, more flavour and nutrients.

"Without the right fuel and proper engine maintenance, it is impossible to be a winner. Now more than ever, diet is a deciding factor in victory."

For more information and to purchase *The Grand Tour Cookbook* visit www.musettepublishing.net

HANNAH'S TIPS



Green vegetables such as broccoli, cabbage and spinach contain high levels of potassium and magnesium, which help relax muscles and are excellent for the metabolism and stabilise blood sugar



Flaxseed oil contains omega-3 and omega-6 fatty acids which are good for regeneration of joints and a faster metabolism; omega-3 fatty acids are also important for the skin and brain

MASSIF

TOTAL DISTANCE 62 MILES

TOTAL ASCENT 2,465 M

MINI MASSIF

TOTAL DISTANCE 44 MILES

TOTAL ASCENT 1,773 M



SUNDAY 4TH OCTOBER
FITZ PARK, KEWSICK, CUMBRIA

THE ICONIC CUMBRIAN ADVENTURE CROSS RIDE



FIND OUT MORE AND SIGN UP AT
BOOKMYRIDE.CO.UK





EVENT CALENDAR

The best events countrywide for September and October

Sunday September 13

YORKSHIRE
65 ROSES HOLME MOSS CLASSIC
DISTANCE 47/65 MILES
TOTAL ELEVATION 1,818M (LONG)
HQ Magna Science Adventure Centre, Rotherham, S60 1DX
Entry £25
CA says Venturing into the Peak District National Park, the well-known climb of Holme Moss, part of the 2014 Grand Départ journey through Yorkshire, is on the menu here. At 4.6km long with an average gradient of seven per cent this reflects the challenging nature of riding in the Peaks.
www.65Roses-HolmeMossClassic.co.uk
FS/ATC/EM

COXFORDSHIRE
BIKE OXFORD
DISTANCE 25/50/80 MILES
TOTAL ELEVATION 1,209M (LONG)
HQ Oxford Harlequins Rugby Club, Marston Ferry Road, OX2 7EE
Entry £18/£33
CA says From the university city you'll soon be swooping along leafy Oxfordshire lanes. At the halfway point on the long route you'll brush the edges of the Cotswolds, providing great views over the county. You'll be welcomed back to HQ with hot food to help you refuel.
@bikeoxford
www.bikeoxford.co.uk
CF/FS/ET/ATC/EM

KEY

C Central **E** Eastern
EM East Midlands **I** Ireland
IM Isle of Man **NE** North East
N N. Ireland **NW** North West
Sc Scotland **SE** South East
S South **SW** South West
W Wales **WM** West Midlands

CHERTFORDSHIRE
HERCULES FESTIVAL OF SPORT, ST ALBANS
DISTANCE 62 MILES
TOTAL ELEVATION 775M (LONG)
HQ Verulamium Park and Westminster Lodge Leisure Centre, St Albans, AL1 2DJ
Entry £30
CA says This festival of sport has a 62-mile sportive for weekend warriors. The course traverses the Hertfordshire countryside on a mostly flat profile. The maximum gradient you'll encounter is just four per cent, making this ideal training terrain to work on your cadence and speed.
@HerculesEvents
www.herculesevents.com
CF/FS/ET

WM WARWICKSHIRE
MACRIDE SHAKESPEARE AUTUMN 100
DISTANCE 62/100 MILES
TOTAL ELEVATION 875M (LONG)
HQ Stratford-upon-Avon Park and Ride, CV37 0RE
Entry £29
CA says You will be setting your wheels through two counties as you take on the roads of South Warwickshire and the Cotswolds. This may not be the toughest challenge out there where climbing is concerned so get into a decent rhythm and go for a good time. Saintbury Hill will be the big test of the day, climbing 600ft in under one mile.
www.shakespeare100.org.uk
FS/ATC/EM

SSUSSEX
RIDE IT ASHDOWN FOREST
DISTANCE 15/33/65/88 MILES
TOTAL ELEVATION 2,093M (LONG)
HQ Sheffield Park Garden, Uckfield, East Sussex, TN22 3QX
Entry £7.50/£18.50
CA says On the cusp of the Ashdown Forest, between the

chalk escarpments of the North and South Downs, the routes take in the High Weald AONB. If you've got the legs for the long route you'll face the Wall, which features in Simon Warren's *100 Greatest Cycling Climbs*. It averages nine per cent with a max gradient of 17 per cent.

www.evanscycles.com/ride-it
FS/EM/ET

WWALES
THE FIVE VALLEYS SPORTIVE
DISTANCE 54/72 MILES
TOTAL ELEVATION 1,474M (LONG)
HQ Margam Park, Groes, SA13 2TJ
Entry £30-£35
CA says This tough event will be a true test of your climbing ability as you take on the Bwlch and Rhigos climbs, only a few miles apart. Both have tough gradients reaching up to 22 per cent and they are over 5km long. Sounds like a great challenge to us.
@ProstateCymru
www.thefivevalleys.co.uk
CF/FS/ET/ATC

SHAMPSHIRE
THE SOUTHERN SPORTIVE
DISTANCE 71/112/155/192KM
TOTAL ELEVATION 2,743M (LONG)
HQ Churchers College, Ramshill, Petersfield, GU31 4AS
Entry £27/£29/£30/£31
CA says If you want to test your strength and stamina then try the 192km Gauntlet route. The South Downs and Meon Valley throw up some challenging climbs, but these are complemented with views over the coast and fast back roads that you'll find once you're over the top of this chalk escarpment. The 155km is billed as tough and the sawtooth profile of the 192km is not a challenge to be taken lightly.
@cyclosportive
www.southernsportive.com
CF/FS/ET/ATC/EM

Saturday September 19

SHAMPSHIRE
NELSON'S TOUR DE TEST VALLEY
DISTANCE 25/50/100 MILES
TOTAL ELEVATION 1,703M (LONG)
HQ Ride HQ, Grateley, SP11 8LH
Entry £20/£25/£30
CA says Set up in memory of snowboarder and keen cyclist Nelson Pratt, the century option here will have you pushing over the high points of Hampshire. Combe Gibbet is the stand-out feature of the day, which features in Simon Warren's *100 Greatest Cycling Climbs*, where it sits at number 25. It has an average gradient of 10 per cent, topping out at 16 per cent.
http://nelsonstourdetestvalley.co.uk/
CF/FS/ET/ATC/EM

September 19 and 20

NW GREATER MANCHESTER
CHALLENGE CANCER TRANS PENNINE
DISTANCE 60/120 MILES
TOTAL ELEVATION 1,604M (SHORT)
HQ Heaton Park, The Farm Centre, M25 2SW or Temple Newsam, Leeds, LS15 0AE
Entry £39
CA says There are a few options on offer here, all of which tackle the roads between the cities of Manchester and Leeds. The 60-mile routes can be undertaken during the day or by moonlight for an added challenge. If you've got the power for more then why not sign up for the 120-mile route? You'll roll over Ilkley Moor, which has some great views as it rises 402m above sea level.
@cyclecancer2014
www.cyclecancer.com
FS/ET/ATC

S HAMPSHIRE WIGGLE NEW FOREST 100

DISTANCE 54/81/100 MILES
TOTAL ELEVATION 1,220M (LONG)

HQ Matchams Leisure Park,
nr Ringwood, BH24 2BT

Entry £26/£36

[@ukcyclingevents](#)

CA says While these routes don't rack up a huge amount of total climbing, short, sharp hills pepper the course. If you're up for taking on the 100-miler you'll cross the Beaulieu River for views over the Solent. This has sold out for the last six years, but places are still available so head to the website to get signed up.

www.ukcyclingevents.co.uk
CF/FS/EOL/ET/EM

Sunday September 20

E ESSEX ESSEX ROADS AUTUMN LEAVES SPORTIVE

DISTANCE 150KM
TOTAL ELEVATION 1,259M

HQ The Brentwood Centre,
Doddinghurst Road, CM15 9NN

Entry £25

CA says These late-season events allow you to test the fitness that you've built up through the year. At 93 miles, this loop through the county of Essex will put you through your paces and have you pushing out of the saddle along the undulating terrain. There will be a pasta party back at HQ.

www.essexsportive.com
CF/FS/ET/EM

W WALES RIDE IT SOUTH WALES

DISTANCE 33/49/75 MILES
TOTAL ELEVATION 2,193M (LONG)

HQ Parc Bryn Bach, Tredegar,
Blaenau Gwent, NP22 3AY

Entry £18.50

CA says Evans, the event organisers, describe this as being a "hill-fest of a ride" and set in the Brecon Beacons we're inclined to believe them. One good thing about lots of hills is the long descents that follow and there are two here that are six miles long. Be prepared for the sting in the tail at Talybont Reservoir — it's a 20 per cent climb and with tired legs could be a tough grind to the top.

www.evanscycles.com/ride-it
FS/EM/ET

NW GREATER MANCHESTER TORELLI TOUR OF THE PENNINES

DISTANCE 50/70 MILES
TOTAL ELEVATION 2,210M (LONG)

HQ Radclyffe Athletic Centre,
Chadderton, OL9 0LS

Entry £25

CA says Organised by Team Torelli Cycling Club, who have designed a route that takes in the area's hotspots around the northernmost part of the Peak District. You'll enter the National Park via Holmfirth Road which is not only the setting for sitcom *Last of the Summer Wine*, but also the home of the first real climb of the day at 5km long.

[@TeamTorelli](#)
www.tourofthepennines2015.blogspot.co.uk
CF/FS/ET/EM

Sc SCOTLAND OBAN SPORTIVE

DISTANCE 52/84 MILES
TOTAL ELEVATION 2,056M (LONG)

HQ Atlantis Leisure, Oban, Argyll
and Bute, PA34 1JE

Entry £28

CA says Travelling on Argyll's country roads, these routes also make use of Route 78 of the National Cycle Network. This event

starts with a push against gravity up to Glen Lonan, warming you up for the day ahead. Take on the longest route and you'll complete a full circumnavigation of the undulations around Loch Awe, Scotland's longest freshwater loch.

www.obansportive.co.uk
FS/ET

Saturday September 26

Y NORTH YORKSHIRE VELO29-ALTURA WHITE HORSE

DISTANCE 30/61/77 MILES
TOTAL ELEVATION 1,899M (LONG)

HQ Nunthorpe Academy,
Nunthorpe, TS7 0LA

Entry £15/£25

CA says For a proper end-of-season challenge take on the 77-mile route as it packs in five quality climbs. There are three chances to see yourself crowned King or Queen of the Mountain with timed ascents of well-known Yorkshire climbs. There's Newgate Bank, White Horse Bank and Carlton Bank, which has thigh-busting 25 per cent sections. Dig in — you don't want to be the one that walks to the top.

[@Velo29Eventscom](#)
www.velo29events.com/sportives
CF/FS/ET/ATC/EM

E CAMBRIDGESHIRE WIGGLE STEEPLE CHASE

DISTANCE 48/61/96 MILES
TOTAL ELEVATION 920M (LONG)

HQ Huntingdon Racecourse,
PE28 4NL

Entry £23/£33

CA says Taking its name from the number of church steeples that dot the horizon, you'll be chasing them down as you zip between the picturesque villages, hopefully

clocking up some good times on these fast flowing routes. Sign up for the long route and you'll travel through Cambridgeshire, Bedfordshire and Leicestershire.

[@ukcyclingevents](#)
www.ukcyclingevents.co.uk
CF/FS/EOL/ET/EM

September 26-27

SE LONDON CHALLENGE CANCER CYCLE: LONDON 2 BRIGHTON

DISTANCE 60/120 MILES
TOTAL ELEVATION 760M (SHORT)

HQ Smithfield Market, Snow Hill,
London, EC1A 2AL

Entry £39/£49

CA says For a different twist on a sportive there is the 60-mile route, which takes on this iconic route through the night so you can watch the sunrise from Brighton beach. If you're doing the 120-mile route make sure you save some energy for the long winding climb of Ditchling Beacon that comes towards the end of the ride.

[@CycleCancer2015](#)
www.cyclecancer.com/cycle-london-2-brighton
FS/ATC

Sunday September 27

SW SOMERSET BRISTOL 100/60/25

DISTANCE 25/60/100 MILES
TOTAL ELEVATION 1,500M (LONG)

HQ Blaise Castle, Henbury Road,
Bristol, BS10 7QS

Entry £23.50/£24

CA says This could be a great opportunity to tick off a century ride, and clock up a nice quick time, if you've not yet had the chance this year. From Bristol you'll pedal through the southern side of the Cotswolds to reach

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the furthest point of Malmesbury in Wiltshire before looping back to Gloucestershire via the market town of Wotton-under-Edge.
www.bike-events.com/bristol100
FS/ET/ATC

SE GREATER LONDON
L'ETAPE LONDON
DISTANCES 42/92/117 MILES
TOTAL ELEVATION 1,161M (LONG)
HQ Lee Valley VeloPark, Queen Elizabeth Olympic Site, E20 3AB
Entry £40/£46/£48
CA says Celebrating cycling in the capital, the inaugural Etape London will cover many roads used on stage three of last year's Grand Départ and will finish with a lap of the Lee Valley VeloPark. This Legacy event will head out to Essex, the most northerly point being Saffron Walden, before leading riders through Epping Forest back to the capital.
 @HumanRaceEvents
www.humanrace.co.uk
FS/ET/EM

EM SHROPSHIRE
PEDALS AND STEAM
DISTANCES 59/85 MILES
TOTAL ELEVATION 1,809M (LONG)
HQ Ludlow Racecourse, Broomfield, SY8 2BT
Entry £45/£55
CA says Pushing towards the Wye Forest, riders will follow the Severn Valley Railway to the riverside town of Bewdley. The major climbs of the day are the ascent to Clifton-upon-Teme and the dramatic 7km steady climb of Cleehill. Both of these provide exhilarating descents and panoramic views across Shropshire and Herefordshire.
www.kilotogo.com
FS/EM/ET

Sc SCOTLAND
POPPYSCOTLAND EAST LOTHIAN SPORTIVE
DISTANCES 45/70 MILES
TOTAL ELEVATION 1,245M (LONG)
HQ Prestonpans Community Centre, East Lothian, EH32 9QS
Entry £35
CA says Set up to support forces veterans and their families in Scotland, this event takes the coastal road from Prestonpans to North Berwick before taking you into the scenic countryside of East Lothian. You'll pass the villages of Gifford and Pencaitland on your fast run to the finish.
tinyurl.com/nhywa59
CF/FS/ET/ATC

SW DARTMOOR
RIDE IT DARTMOOR
DISTANCES 15/30/63/76 MILES
TOTAL ELEVATION 2,439M (LONG)
HQ Tavistock Community Sports Centre, Devon, PL19 8DD
Entry £7.50/£18.50
CA says Cutting through the heart of Dartmoor's National Park, the routes here are a test of pure grit and determination. The 3.6km climb of Haytor Vale features on the long route and 20 per cent gradients are commonplace as the route leads riders through Dartmeet, Widecombe and over the highest point of the moors from Bovey to Postbridge.
www.evanscycles.com/ride-it
FS/EM/ET

WM WARWICKSHIRE
TOMMY GODWIN CHALLENGE
DISTANCES 30/100KM
TOTAL ELEVATION 852M (LONG)
HQ Marie Curie Hospice, Solihull, B91 2PQ
Entry £10/£20
CA says Commemorating 1948

Olympic cycling medallist Tommy Godwin, this challenge event will lead riders through the winding lanes of Warwickshire, heading south from the start line. There are only a couple of climbs to tackle here and a number of fords to splash your way through.
 @TommyGodwin1
tinyurl.com/qe6cqcy
FS/ATC/EM

EM DERBYSHIRE
WIGGLE PEAK DISTRICT PUNISHER
DISTANCE 40/75/100 MILES
TOTAL ELEVATION 2,809M (LONG)
HQ Bakewell Showground, DE45 1AQ
Entry £23/£33
CA says You'll feel like you've completed an Alpine challenge after pedalling around the Peak, especially on the switchback ascent at Crowdicote. You'll ride through the Eyam and Hope valleys, through Edale village to take on the renowned Mam Tor. There are massages on offer back at HQ, for which your legs will thank you.
 @ukcyclingevents
www.ukcyclingevents.co.uk
CF/FS/EOL/ET/EM

Saturday October 3

Sc SCOTLAND
MOFFAT AUTUMN SPORTIVES
DISTANCE 43/72 MILES
TOTAL ELEVATION 1,369M (LONG)
HQ St Andrew's Church Hall, Moffat, DG10 9EJ
Entry £25
CA says The Devil's Beef Tub is an 11km climb that starts from Moffat. It's a steady pull with a maximum gradient of seven per cent. Both routes go up here and it's a stark

contrast to the uphill stretch by Talla Reservoir that hits 20 per cent.
www.tearfundcycling.btck.co.uk
CF/FS/ATC/EM

WM SHROPSHIRE
CYCLING WEEKLY'S WELSH RAIDER
DISTANCE 45/69/105 MILES
TOTAL ELEVATION 1,887M (LONG)
HQ Ludlow Racecourse, Shropshire, SY8 2BT
Entry £25/£35
CA says This route makes a figure-of-eight loop moving eastward towards Bridgnorth before looping around, in a westerly direction, towards the hills of the Welsh border. The sweeping roads of the Welsh Marches lead to a long switchback climb through the Ceri Forest, descending back into England.
 @bookmyrideUK
www.bookmyride.co.uk
CF/FS/EOL/EM/ET

NE NORTHUMBERLAND
WOOLER WHEEL CLASSIC
DISTANCE 50/100KM
TOTAL ELEVATION 1,300M (LONG)
HQ John Swan Livestock Market, Wooler, NE71 6SL
Entry £15/£20
CA says Skirting the Northumberland National Park, the routes navigate through the Glendale area of Northumberland, to the high Cheviots on the Scottish Border. Make the most of the flatter sections on Milfield Plain and along the River Tweed where you can spin your legs out and recover before the profile rears up again.
 @woolercyclehub
www.woolercyclehub.co.uk
FS/ET/EM

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Pushing it out on the Jurassic coast

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Training + Fitness

How to set up your pain cave!

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Whey protein drinks

Magic magnesium

Columnists

"Why I won't wear Rapha" Simon Warren comes out

On sale October 7

Sunday October 4

SW DEVON LAND'S END 100

DISTANCE 47//62/100 MILES

TOTAL ELEVATION 1,793M (LONG)

HQ Folly Field, Marazion, TR17 0DH

Entry £23/£27/£31

CA says The Land's End 100 heads along the Penwith Heritage Coastline taking in St Ives and the Area of Outstanding Natural Beauty that is Cape Cornwall. As soon as you leave event headquarters you'll take on a short climb and be pushing out of the saddle for most of the day. The 100-mile route will take riders out to the most southerly point of mainland Britain: the Lizard Peninsula.

www.tempusleisure.org.uk/landsend100
CF/FS/ET/ATC/EM

WM WORCESTERSHIRE THE TOUR RIDE

DISTANCES 40/75/100 MILES

TOTAL ELEVATION 2,246M (LONG)

HQ University of Worcester Arena, Hylton Road, WR2 5JN

Entry £26

CA says Heading out south of Worcestershire, the routes make their way to the beautiful Malvern Hills to take on the climb of Wyche Cutting, which featured on the Tour of Britain professional race in 2007 and 2014. This will be the King or Queen of the Mountains climb so go hard if you want to be in with a chance of taking the crown.

www.tourride.co.uk
CF/ET/EM

Y YORKSHIRE WIGGLE AY UP!

DISTANCE 32/56/91 MILES

TOTAL ELEVATION 1,796M (LONG)

HQ Thirsk Racecourse, North Yorkshire, YO7 1QL

Entry £23/£33

CA says A nice flat, fast start in Thirsk will warm your legs up for the lumpy terrain of the North York Moors. Entering the National Park you'll pass a chalk figure of a white horse cut into the hillside, as you weave by drystone walls on quiet lanes in remote moorland.

www.ukcyclingevents.co.uk
CF/FS/EM/ET

Sunday October 11

Y YORKSHIRE BLUE GIRAFFE BICYCLES FALLING LEAVES SPORTIVE

DISTANCE 35/55 MILES

TOTAL ELEVATION 856M (LONG)

HQ Great Broughton and Kirkby Sports Club, TS9 7HG

Entry £15/£20

CA says From Great Broughton you'll head west to loop around to the remote village of Osmotherley. A series of climbs will carry you south through the park to Hawnbury on the River Rye. The route then sees you climb Clay Bank before returning to the start.

@bluegiraffe1
www.bluegiraffebicycles.co.uk
CF/FS/EM

SE SURREY CYCLING WEEKLY'S BOX HILL ORIGINAL

DISTANCE 44/61/100 MILES

TOTAL ELEVATION 2,038M (LONG)

HQ Friends Life, Dorking, RH4 1QA

Entry £25/£35

CA says Our sister magazine, *Cycling Weekly*, sees its popular road sportive season end in style here with a jaunt around the Surrey Hills. Every rider on all three routes will get to tackle the iconic ascent of Box Hill, with those who are riding the standard and epic routes also facing the challenge of Leith Hill and the 18 per cent gradients of White Down.

@bookmyrideUK
www.bookmyride.co.uk
CF/FS/EOL/ET/EM

SW GLOUCESTERSHIRE THE COTSWOLD EDGE SPORTIVE

DISTANCES 77/100/135KM

TOTAL ELEVATION 2,071M (LONG)

HQ The Renishaw Site, Wotton-under-Edge, GL12 8JR

Entry £22/£23/£24

CA says After meandering through quiet, leafy lanes and stretching your legs out, you hit the western edge of the Cotswolds where steep climbs await. Hope for a clear day as there will be a series of stunning views over the Severn Estuary if so, and you might even get a glimpse of the Black Mountains of Wales.

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www.southernsportive.com
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KIERAN BLAY (RIDES A SWIFT ULTRA VOX) ACCIDENT 11/02/15

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Time Inc.

My toughest day



Marianne Vos World Championships road race, Copenhagen 2011

After taking my world title on the road as a first-year elite in 2006, I took the silver medal in the road race for the following four years. As a 'winner' type this was very disappointing for me, but in 2011 everything looked good to change the silver into gold.

My Dutch team-mates worked very hard to get me the best opportunity for the win. The expected bunch sprint came and in the last corner I was in the perfect position behind my team-mates. But in the final stretch I didn't follow my intuition; the nerves took over. I hesitated to start my sprint and in competition with the best sprinters of the world, you can't have any


doubts. The Italian Giorgia Bronzini had a superb sprint and took a deserved world title. I came away with my fifth consecutive second place.

I felt bad because my team-mates worked so hard for me and I failed to finish it off. In the first moments after the race I was very angry with myself, but you know you can't change it anymore.

Later that day I pulled myself back together and promised to take this experience with me to the next year and try again. In 2012 it finally worked out and the waiting made it even more special.

Marianne Vos was talking to Rebecca Charlton

Marianne Vos rides for Rabo Liv and is the reigning Olympic road race champion and an ambassador for Take the Stage and #weownyellow



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